SEPTEMBER 1957

the Airman

OFFICIAL JOURNAL OF THE AIR FORCE

THOMAS D. WHITE, Chief of Staff, USAF

Eighteth Congress of the United States of America

At the First Session

Begun and held at the City of Washington on Friday, the third day of January, one thousand nine hundred and forty-seven

AN ACT

To promote the national security by providing for a Secretary of Defense; for a National Military Establishment; for a Department of the Army, a Department of the Navy, and a Department of the Air Force; and for the coordination of the activities of the National Military Establishment with other departments and agencies of the Government concerned with the national security.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

DECLARATION OF POLICY

SEC. 2. In enacting this legislation, it is the intent of Congress to provide a comprehensive program for the future security of the United States; to provide for the establishment of integrated policies and procedures for the departments, agencies, and functions of the Government relating to the national security; to provide three military departments for the operation and administration of the Army, the Navy (including naval aviation and the United States Marine Corps), and the Air Force, with their assigned combat and service components; to provide for their authoritative coordination and unified direction under civilian control but not to merge them; to provide for the effective strategic direction of the armed forces and for their operation under unified control and for their integration into an efficient team of land, naval, and air forces.

Joseph W. Martin Jr.

Speaker of the House of Representatives.

Arthur H. Vandenberg

President of the Senate pro tempore.

Approved July 26 1947

Harry Truman

the Airman

OFFICIAL JOURNAL OF THE AIR FORCE

VOLUME 1 NUMBER 2
SEPTEMBER 1957

Director of Information Services
Office of the Secretary of the Air Force
MAJ. GEN. ARNO H. LUEHMAN

Chief, Internal Information
Office of Information Services
COL. ROBERT B. GOOD

Editor
LT. COL. HARMON H. HARPER

Managing Editor
DAVE KARTEN

Asst. Managing Editor
M/SGT. HAROLD E. BAMFORD

Art Director
JAMES T. RAWLS

Production and Distribution
RUSSELL M. WOODS

CONTENTS

What *IS* the Air Force Job?
An explanation of the USAF mission 1

Survivors' Benefits
Application of the law and how it works 9

Beware of THAPSM
Jets replace the prop and out goes the gremlin 17

Family Housing
Progress report on the Air Force housing program 18

Cordiner Report
Details of the committee recommendations spelled out. 24

The Air Force Role in International Geophysical Year
Uncovering the secrets of our planet 28

A Little Learning Is a Dangerous Thing
Formal education need not stop during USAF service .. 32

Forecastin' Freddy's Football Future
The USAFA grid Falcons are growing up 36

About the Sonic Boom
Latest word on a jet-age offspring 43

DEPARTMENTS

AF Pictorial .....22 **Air Age Library** 31
Airmen in the News .....30 **Airman's World** 41

USAF PERIODICAL 30-15

SUBSCRIPTIONS

THE AIRMAN is available on subscription for $3.50 per year domestic, $4.50 foreign, 35c per copy, through the Superintendent of Documents, Government Printing Office, Washington 25, D. C. No back copies can be furnished.

Editorial Office: THE AIRMAN, Room 2-206 Tempo E, 4th and Adams Drive SW, Washington 25, D. C. Telephone: LIberty 5-6700, Ext. 67393.

THE AIRMAN is primarily a medium for the exchange of ideas and information among Air Force personnel. Readers are encouraged to submit articles, short subjects, photographs and artwork. All contributions will be given consideration; suggestions and criticisms are welcomed. Opinions expressed by individual contributors do not necessarily reflect the official viewpoint of the Department of the Air Force. All photographs are official USAF photos unless otherwise designated.

Use of funds for printing this publication approved by the Secretary of the Air Force and the Director of the Bureau of the Budget July 5, 1956.

IN THIS ISSUE

This month marks the 10th anniversary of the United States Air Force's establishment as a separate service. It seems appropriate for all of us to have a look at the Air Force job description; to refresh our minds on the missions and responsibilities of the Air Force. In this way we can better appreciate and understand our individual and collective contributions to the mission. In **"What *IS* the Air Force Job?"** page 1, Frank Jennings, Chief of the Orientation Section, Internal Information Division, Office of Information Services, and formerly editor-in-chief of "Armed Forces Talks," Office of Armed Forces Information and Education, Office of the Secretary of Defense, discusses the Air Force mission and function. The inside front cover shows pertinent parts of the National Security Act of 1947 which established the Department of the Air Force and the USAF and assigned general responsibilities.

★ ★ ★

Security, both national and personal, is of prime importance to Air Force personnel. The Survivor Benefits Act is designed to provide the serviceman and his family with greater personal security. Although many pamphlets and press releases have been prepared on this act, there is still confusion and misunderstanding about its provisions. To obtain a factual explanation of it we asked Logan Hysmith, assistant to the Chief of Personal Affairs Branch, DCS/P, Headquarters USAF, to prepare **"Survivors' Benefits,"** page 9. Mr. Hysmith is a veteran of World War II and the Korean conflict. He is an attorney, and served as chairman of the Department of Defense committee initially responsible for implementation of the Servicemen's and Veterans' Survivor Benefits Act.

"No-Flash" Freddy

★ ★ ★

"Forecastin' Freddy's Football Future," page 36, carried M/Sgt. Hal Bamford and Staff Photographer S/Sgt. Ted Gaidelis to the Air Force Academy for a session with Coach Buck Shaw and the Falcons. With the Falcons approaching the big league this year, we thought it timely to have a look at the coming season. They tried to get a photograph of Freddy the Falcon in flight, but quickly learned that he had a strong dislike for flashbulbs. When one goes off, if he isn't tethered, Freddy has a tendency to make an off-tackle smash at the photographer. Hal joined THE AIRMAN after a tour in the Special Events Branch, Civil Liaison Division, Office of Information Services. Prior to that assignment he had served in the information field in USAFE and with the Orientation Group. He has served as NCOIC for the National Aircraft Show for four years. Ted joined the staff after a tour in USAFE with the 10th Recon Wing. He had previously served in Germany, and his photographs have been widely used in Air Force and commercial publications.

★ ★ ★

T/Sgt. Hal Craven, who writes about the Air Force's contribution to that international symphony of science known as the **"International Geophysical Year,"** page 28, and **"Family Housing,"** page 18, joined THE AIRMAN after a tour as editor of the base newspaper at Portsmouth (now Pease) AFB, N. H. Prior to that he edited the base paper at Westover AFB, Mass., and served as correspondent for such MATS publications as "Trans-Pacifican," "The Airliner," and "Continental Courier."

LETTERS TO THE EDITOR

Sir: *My family and I have just returned from an overseas tour. When our household furniture was shipped, the living room suite was damaged beyond use. Several commercial packers and movers processed our furniture along the way, and I don't know which company actually did the damage. Is there one central place where I can file such a claim?*

Tech Sergeant
Westover AFB, Mass.

Every Air Force base has a Claims Officer, usually attached to the Judge Advocate General's Office, to assist airmen in making such a claim. If some form of demand should be made on the commercial packer or shipper, the Claims Officer will also assist you in making up the proper demand.

AFR 112-7, Personnel Claims, dated 6 June 1957, establishes the types of claims which are payable and those which are not, as well as the proper procedure to be followed in filing a claim.

★ ★ ★

Sir: *My AFSC, 62150, baker, is not authorized in my organization; however, I am performing duty in it. I have passed the Airman Proficiency Test. What is the procedure and authority for testing and upgrading?*

Staff Sergeant
Gray AFB, Texas

Par. 4, ch. 13, AFM 35-8, outlines the procedures and is the authority for administering Airman Proficiency Tests.

Par. 15e(3)(b), AFM 35-1, provides for upgrading of exceptionally well qualified airmen to the advanced 7-level skill, even though they are not currently demonstrating qualifying proficiency at the 7-level. It is suggested that you contact your personnel officer for further information regarding necessary forms to be completed prior to being considered for upgrading under the above-cited paragraph.

An article on Airman Proficiency Tests is scheduled to appear in the October issue of THE AIRMAN.

★ ★ ★

Letters should be addressed to Editor, THE AIRMAN, Room 2-206 Tempo E, 4th and Adams Drive SW, Washington 25, D.C. All letters should be signed. If the letter and answer are used in THE AIRMAN, the name will be withheld if requested by the writer. All legitimate letters will be answered.

What *IS* the Air Force Job?

by Frank W. Jennings

You might say that the U.S. Air Force was born in an airplane.

It was shortly after noon on July 26, 1947, at the National Airport in Washington, D.C. The President of the United States, Harry S. Truman, sat in his personal plane (the "Sacred Cow") waiting. He was going to fly to the bedside of his dying mother. But first he wanted to sign some of the most important legislation in his administration. It was a bill that would set up a new defense organization for the Nation and bring into being an independent United States Air Force.

The bill, the National Security Act of 1947, was brought to him in the plane. He signed it. Then he signed the Executive order defining the roles and missions of the Armed Forces. He also signed the nomination of James Forrestal as Secretary of Defense.

Officially, of course, the United States Air Force didn't begin functioning until September, when its first Secretary, Stuart Symington, was sworn in on the 18th. A week later the President appointed General Carl Spaatz as the first Chief of Staff.

Yet acctually, when viewed as an organization of people devoted exclusively to airpower, the Air Force was already 40 years old in 1947. By then, airpower had proved itself a major force in modern warfare. The grim logic that comes with the urgency of winning a war had raised the Air Force to its proper position among the American Armed Forces in World War II.

Since 1942 the Army Air Forces (AAF) had been treated almost as a separate service. It had become necessary to include an airman in all topside decisions on strategy. General H. H. "Hap" Arnold was appointed to the Joint Chiefs of Staff for Army, Navy, and Air, and to the combined chiefs of staff of the Allied Nations.

After the war, some of the staunchest supporters for a separate coequal air force were outstanding Army leaders. Generals Omar N. Bradley, J. Lawton Collins, Alfred M. Gruenther, George C. Marshall, and Douglas MacArthur were in basic agreement with General Dwight D. Eisenhower that there should continue to be "three complementary forces," the Army, the Navy, and the Air Force.

General Eisenhower commented on that issue at a Pentagon press conference in 1952. "If you will go back in your minds," he said, "you will know there was a man named Billy Mitchell who said we were never going to have decent airpower until we had a separate department of air, coequal with the others and ready to fight its own battles, and I came out of the war convinced that Billy Mitchell had been right in that part of his contentions. And I instantly started a campaign to disassociate air from its legally subordinate position to the ground forces, to make it a separate department."

Congress reflected the American people's new awareness of defense matters when it wrote the National Security Act of 1947. What Congress wrote and what President Truman signed at National Airport 10 years ago was the air-age concept of our country's defense. Few laws could be more important for every Air Force member to understand. In fact, few laws could be more important for every American citizen to understand.

Wrapped up in this law and its

interpretations is the overall budget for defense—by far the heftiest stack of the taxpayer's dollars to be spent each year. The way this law is interpreted decides in a big way just how strong our country is militarily, how long we actually can prevent war, or whether we could win one that might be forced upon us. It also decides in a big way just how strong our country is economically.

Whether all these billions of dollars are used wisely or partly wasted depends very much on how well the policies of this law are understood and how strictly they are followed.

The Communist military threat . . . the budget . . . missiles . . . "local wars" . . . the submarine threat . . . roles and missions. Talk about any of these a little while and, to make sense, you have to know quite a bit about the intent of this law, and some of the actions that followed it.

Here, in the National Security Act of 1947, with its amendments, and the orders, agreements, and directives based on it, is the overall Air Force job description, as well as that of the other services.

What exactly is the Air Force job? Has it changed in the past 10 years? Have missiles and nuclear developments changed our mission? Let's find the answers.

Very simply, the new act made the Air Force responsible for conduct of "offensive and defensive air operations" for the Nation. That overall assignment takes in a tremendous number of operations and a limitless area around our globe and above it—far into space.

As stated in the Executive order signed at the same time, the Air Force is "organized, trained, and equipped primarily for prompt and sustained air offensive and defensive operations." The Army, said the order, is "organized, trained, and equipped primarily for prompt and sustained combat incident to operations on land." The Navy is "organized, trained, and equipped primarily for prompt and sustained combat at sea."

This is the basic duty assignment of each of our major forces, air, land, and sea. Congress intended that each service specialize in either air warfare, land warfare, or sea warfare. But it wanted them to work "as an efficient team under unified control." The whole purpose was to establish a more *effective* and *economical* defense organization for the United States.

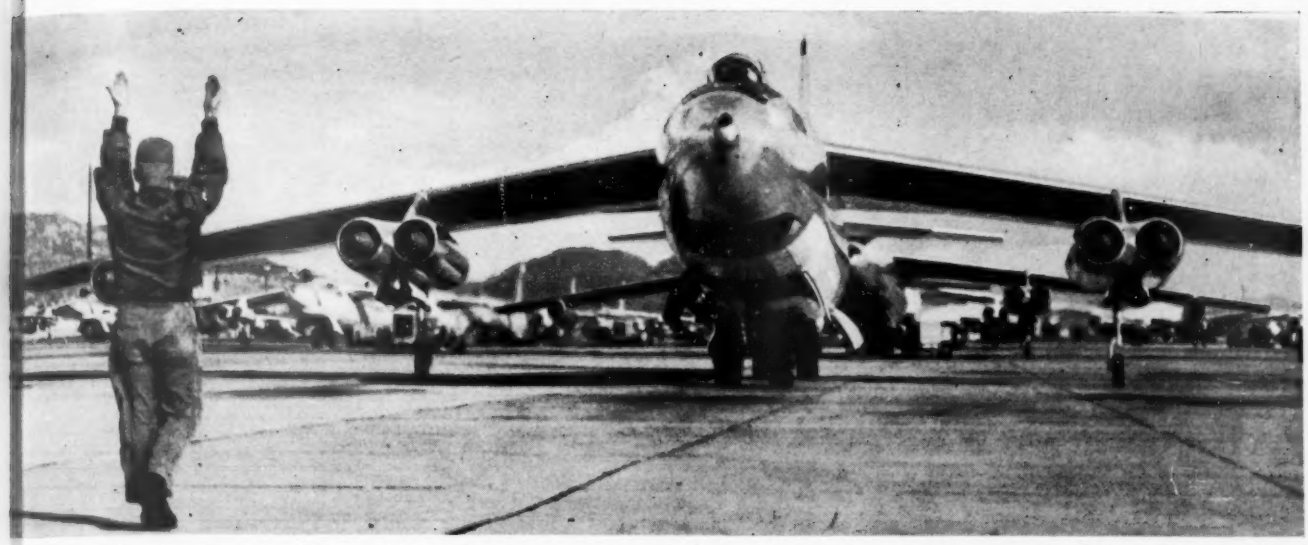
In a memo to all the services, the first Secretary of Defense stated that the principles of the new act demanded "prevention of unnecessary duplication or overlapping among the services" and coordination of service operations "to promote efficiency and economy and to prevent gaps in responsibility."

The Air Force "job description" in the Executive order covered practically the same duties the AAF had been responsible for all along under the War Department. The Air Force was already the Government's primary agency for "gaining and maintaining general air supremacy." It was, in truth, the world's most powerful air arm. As such, it was the Nation's primary agency for "establishing local air superiority," for conducting "air defensive operations," and for operating "the strategic air force of the United States and strategic air reconnaissance."

The President's order merely listed these capabilities of the national air arm, plus a few more, such as providing airlift and air support to surface forces, and "providing the means for coordination of air defense among all services."

These were capabilities that a dedicated group of air specialists within the Army had been building for 40 years. They had fought an uphill battle for an understanding of the importance of airpower

TAC crewman views North American F-100 *Super Sabre* refueling from a converted Boeing B-29 *Superfort*. This team gives TAC new global mobility.



In case of attack, SAC is ready to deliver a counterblow which "can destroy the enemy's means and will for making war."

and its proper employment under centralized control. Now—so many of them thought—the battle for understanding airpower had been won.

But it hadn't.

The advent of missiles—most of which are aerial vehicles that do the same military job as airplanes—has confused the airpower picture.

What effect should long-range missiles have on the Air Force's responsibility for long-range bombing?

How much do missiles change the air defense picture?

The airman of today must be able to answer these questions—and many more like them.

You can answer them if you remember the basic principles upon which our country's new defense organization is based. Key words are *effectiveness, economy, specialization,* and *unified control.*

The new organization was set up with the idea that each service would stick primarily to its specialty. Its weapons, equipment, training programs and schools for its people, and its objectives and tactics in war were not to wastefully duplicate nor overlap the efforts of another service. All three forces—land, sea, and air—would specialize in types of warfare in which they traditionally excelled. All would work together and complement each other as a team of specialists under unified control.

This was spelled out in 1948 by an agreement among the service chiefs of staff after a series of meetings with Secretary of Defense Forrestal. The agreement, officially titled "Functions of the Armed Forces and the Joint Chiefs of Staff," is commonly called the "Key West Agreement" or the "Functions Paper."

"Functions" is only another word for missions, tasks, and responsibilities. The Functions Paper contains the job descriptions of all the services. These job descriptions have been reviewed and endorsed by each service chief and by each Secretary of Defense from 1948 until today.

For the sake of good management and military effectiveness, the agreement gave each service primary responsibility for certain jobs. It also listed secondary responsibilities, called collateral functions.

The service with the primary responsibility was to do the major planning, selection of weapons, and general direction of the functions. The chief of that service was to be the one who would present requirements and plans to the Joint Chiefs of Staff "for the employment of *all* forces to carry out the function."

Three secondary jobs were assigned to the Air Force:

★ To interdict enemy seapower through air operations.

★ To conduct antisubmarine warfare and to protect shipping.

★ To conduct aerial minelaying operations.

But to prevent any of the services from making a secondary job into a primary job belonging to another service, the agreement said that such an assignment "shall not be used as the basis for establishing additional force requirements." This means that the Air Force, for example, should not build up special forces for antisubmarine warfare, laying of sea mines, or interdiction of seapower. These, naturally, are primary responsibilities of the Navy. The Air Force must be ready only to "support and supplement" the Navy in carrying out this part of its mission.

The Army's secondary job is "to interdict enemy sea- and air-power and communications through operations on or from land."

The Navy and Marine Corps have four secondary jobs:

★ To interdict enemy land- and air-power and communications through operation at sea.

★ To conduct close air support for land operations.

Supersonic watchdog—Boeing *Bomarc* interceptor area defense missile will soon be an important weapon of Air Defense Command.

★ To furnish aerial photography for cartographic purposes.

★ To be prepared to participate in the overall air effort as directed by the Joint Chiefs of Staff.

All these secondary functions are, of course, primary functions of another service.

Here are the Functions Paper's briefest descriptions of the overall job of each service:

ARMY—"To seize, occupy, and defend land areas." *(Section IV, Par. A1(b))*

NAVY and MARINE CORPS—"To gain and maintain general sea supremacy." *(Section V, Par. A1(b))*

AIR FORCE—"To gain and maintain general air supremacy." *(Section VI, Par. A1(b))*

Now let's direct our attention to the Air Force job. At the same time, we must not forget that the national ground and sea arms are as indispensable to our country's security as the national air arm.

Let's look at three major areas of Air Force prime responsibility—air defense, air offense, and air support of the Army.

What does the Functions Paper say about air defense? Two things, mainly. It defines it and assigns the Air Force the prime responsibility for the task.

"Air defense," the paper says, "means all measures designed to nullify or reduce the effectiveness of the attack of hostile aircraft or guided missiles after they are airborne."

Note that the definition, written in 1948, includes missiles. Missiles had stirred the imagination of air enthusiasts since World War I. In 1917 the Air Service had tested power-driven "flying bombs" developed by a group of outstanding engineers, including Charles F. Kettering. Lack of funds prevented continued work on the project—or on other guided missiles—until shortly before World War II.

The guided missiles effort really got going as a program in 1941, when the AAF let a contract to General Motors for the GMA-1 power-driven, surface-to-surface missile. Other development contracts were let during the next few years—including work on jet and rocket engines for aircraft—that would pay off years later in missile production. By war's end the Air Force's program included air-to-surface, surface-to-surface, surface-to-air, and air-to-air missiles. Few of these were used in the war, however, because the piloted aircraft was far superior.

Today the picture is changing. Continent-hopping missiles are a reality. Long-range "pilotless bombers" will carry nuclear weapons part way around our globe at speeds far exceeding the speed of sound. Today's dictators possess much greater air capabilities than did those of World War II. But so does the Free World, and particularly the United States.

Global Air Defense

Defending the United States against today's globe-girdling weapons calls for a global air defense system combined with global air striking capability. This is what the United States Air Force has developed during the past 10 years—building on already tremendous capabilities. At the same time it is geared to fight effectively in small, "brushfire" wars and to assist the Army and Navy in their missions.

That's why many of the air *defense* jobs assigned to the Air Force can hardly be distinguished from its air *offense* jobs. As the Functions Paper states, the Air Force—

Must "*gain and maintain general air supremacy.*"

Must "*defeat enemy air forces.*"

Must "*control vital air areas.*"

Is "*responsible for defense of the United States against air attack.*"

Must "*formulate joint doctrines and procedures, in coordination with the other services, for defense of the United States against air attack.*"

Must "*develop, in coordination with the other services, doctrines, procedures, and equipment for air defense from land areas, including the continental United States.*"

Is "*responsible for strategic air warfare.*"

Must "*furnish aerial photography*

for cartographic purposes."

Must "*provide an organization capable of furnishing adequate, timely, and reliable intelligence to the Air Force.*"

In one sense, the most powerful air defense system of our Nation is our organization for strategic air warfare. This includes part of Tactical Air Command, as well as Strategic Air Command, plus Naval air support. The Air Force's known capability to strike back with devastating force at any aggressor has been widely acknowledged for years as a key factor in preventing a major war. In that sense this deterrent power is the strongest air defense force we have. The Air Force could not "gain and maintain general air supremacy" without it.

It also is a powerful air defense force in another sense. If our country is attacked from the air, the best place to destroy the enemy air vehicles is at their source—not above our cities. Our long-range weapon systems are ready right now to begin that effort, if necessary.

But most Americans probably aren't accustomed to thinking of air defense of our Nation as a global operation. Although the Air Force has been given the prime responsibility for all air defense planning, direction, and operation, the Army, Navy, Marine Corps, and Allied forces give vital support in their areas of responsibility. It's a job that's growing bigger in every dimension every day.

Air defense is putting its "feelers" farther out from the United States, and even the North American continent, all the time—and farther up into the sky, far into space—as the state of the art of aerial offense and defense rapidly develops.

The Air Force can use interceptors, tactical fighters, and long- and short-range bombers, as well as missiles, to destroy enemy aircraft in the air or before they're airborne. It has these airplanes and missiles in many parts of the world.

Our surface-to-air, air-to-air, and air-to-surface defense forces are only part of our global air defense system. Our detection and identification system is to be found virtually wherever our forces are deployed.

Integrated theater air defense, under the Air Force overseas, together with our air defense of the Western Hemisphere, represents a truly global air defense.

In North America, a giant Distant Early Warning (DEW) line—a 3,000-mile electronic fence to warn of the approach of enemy air vehicles—has just been completed and is in full operation. A thousand miles south is the mid-Canada line, built and operated entirely by the Canadian Government. Also in Canada is the Pinetree system of radars, which is the northern portion of the air defense combat zone. Added to the radar system in the U.S. for warning, detection, and control is the organization of volunteers in the Ground Observer Corps (GOC), who scan the skies for low-flying aircraft.

In the combat zone continuous radar surveillance permits control of air space. Intercept and destruction would be accomplished through controlled application of fighter-interceptors and surface-to-air missiles against the intruders.

In the event of attack, all means of detection would be pouring intelligence information into a central point at a rate far beyond human capabilities to digest and act upon.

Northrop F-89D *Scorpion* carries Hughes *Falcon* guided aircraft rockets, a two-man crew, and elaborate radar equipment for all-weather and night interceptor missions in defense of U. S.

To meet this problem, our Government has developed what the Air Force calls the Semi-Automatic Ground Environment system (SAGE). By electronic means, SAGE brings together pieces of information from a dozen points or more, and, using digital computers, solves air defense problems at lightning speed. It also assists the air defense commander with radarscope presentation of the air battle within a particular geographical area. The SAGE system is beginning to spread throughout the continent from its initial posts on the Atlantic Coast.

SAGE is part of a global air defense warning network that includes intelligence reports from overseas, radar pickups from Air Early Warning (AEW) aircraft and picket ships far from our homeland; radar pickups from "Texas Tower" islands, the DEW line and other radars in Canada; sightings by GOC members; and identification by pilots in Air Force interceptors.

Detection, identification, interception, and destruction are global air defense jobs demanding use of many of the Air Force's specialized global capabilities.

Long-Range Warfare

Similarly, the Air Force's strategic air warfare responsibility depends on many of the other Air Force assignments and capabilities.

Air defense is one of these. Our bases must be well protected against enemy air attack.

Strategic Air Command's globally deployed bases are serviced, when necessary, by rapid aerial transport of critically needed materials, equipment, and men.

But let's begin with the target. Before we strike back at an aggressor we must know where to strike. Where should we strike first? Where will we hurt him most? *Exactly* where is a point in his area of the globe as related geographically to our launching point? Where should we strike next? Which and where are the enemy's key industries and weapon systems?

These are only a few of the questions for which the planners and operators must have answers at any given moment.

Douglas C-124 *Globemaster II* unloads tractor at northern outpost. MATS is capable of moving equipment to any part of the world.

And after our bombers have dropped their bombs, and our air-to-surface and surface-to-surface missiles have been launched, how do we know what we hit and how well? Which targets should be hit again? Which should we hit next?

Much of this essential pre- and post-strike information is compiled by the most experienced group of men in the world in target selection and evaluation. Their information is heavily dependent upon intelligence reports, aerial photography, aerial reconnaissance, and aerial maps.

It is as important to remember a few facts about the definition of *strategic air warfare* as of *air defense*. The Functions Paper says it in one big mouthful. Yet it gives only a brief picture of what SAC and part of TAC would be doing in the first few hours and days of any major war. It also describes what an enemy would have to attempt doing to the United States if he hoped to defeat us.

"Strategic air warfare," says the Functions Paper, "is air combat and supporting operations designed to effect, *through the systematic application of force to a selected series of vital targets*, the progressive destruction and disintegration of the enemy's war-making capacity to a point where he no longer retains the ability or the will to wage war.

"Vital targets may include key manufacturing systems, sources of raw material, critical material stockpiles, power systems, transportation systems, communication facilities, concentrations of uncommitted elements of enemy armed forces, key agricultural areas, and other such target systems."

One vital target not mentioned in the definition is enemy airpower. This, of course, would take first priority.

As Chief of Staff of the Air Force, General Thomas D. White acts as the agent of the Joint Chiefs of Staff to present to that body the requirements and plans for employment of all the Armed Forces that carry out strategic air warfare or air defense.

It's a gigantic responsibility, but gaining and maintaining general air supremacy calls for even more than strategic air warfare and air defense capability.

"Brushfire" Wars

Tactical air warfare is one of the Air Force's most important responsibilities. Its ability to fight "brushfire" wars and to give air support to the Army in large- or small-scale wars is a primary function.

In the "limited" Korean conflict the UN Command air forces (comprised mostly of U. S. Air Force planes, and including Navy, Marine Corps, and Allied aircraft) quickly won air superiority. UNC air forces kept enemy air forces away from UNC troops, while causing an offi-

cially estimated 184,808 enemy casualties from June 1950 to July 1953.

Army commanders credited UNC air forces with preventing our outnumbered ground forces from being "driven off the Korean peninsula" by enemy forces in the early months of the conflict.

After UNC land and air forces had defeated the North Korean aggressors, and the Chinese Communists had entered the war and moved south to the 38th parallel, both the UNC and the Communists began working toward an armistice.

For about two years, from 1951 to 1953, while our ground forces fought to strengthen and maintain a strong defense line, the UNC air forces conducted a campaign to prevent the enemy from launching a sustained general offensive. From July 1951 to June 1953 it destroyed or damaged more than 75,000 vehicles, 1,000 locomotives, 16,000 railroad cars, 2,000 bridges, 300 tanks, 28,000 troops, 12,000 gun positions, and 15,000 bunkers. This interdiction campaign vastly cut down the fighting men and material being moved to the frontlines.

In the first year of the conflict the UNC air forces devoted most of their effort to close support of the UNC ground forces. "No request for air support that could possibly be furnished has ever been refused," said the late Lt. Gen. Walton Walker, commanding general of the 8th Army.

During the last two years of the action, about 30 percent of all air force sorties were flown in close support, as opposed to about 10 percent in Europe in World War II.

This extremely brief review of the three-year Korean conflict necessarily omits dozens of important facets of Air Force activity there. According to *Officers' Call*, an official Army publication, "Our top military leaders share the frontline soldiers' enthusiasm about what the airmen have done in Korea . . ."

What the airmen had done was the job assigned to the Air Force in the Functions Paper—"to furnish close combat and logistical air support to the Army; to include airlift, support, and resupply of airborne operations; aerial photography; tactical reconnaissance; and interdiction of enemy landpower and communications."

And included in this effort was another operation for which the Air Force has primary responsibility—"to provide air transport for the Armed Forces, except as otherwise assigned." From June 1950 to June 1953, Military Air Transport Service made 33,000 crossings of the Pacific, carrying thousands of tons of cargo and mail—and 470,000 passengers, of whom 60,000 were patients.

Which service has been given the responsibility for which jobs with missiles and airplanes? The answer is in the Functions Paper, the "Clarification Memorandum" released by the Secretary of Defense on November 26, 1956, and the March 18, 1957, Department of Defense Directive titled "Clarification of Roles and Missions of the Department of the Army and the Air Force Regarding Use of Aircraft."

The use of airplanes and missiles is dependent upon the mission assigned to each service.

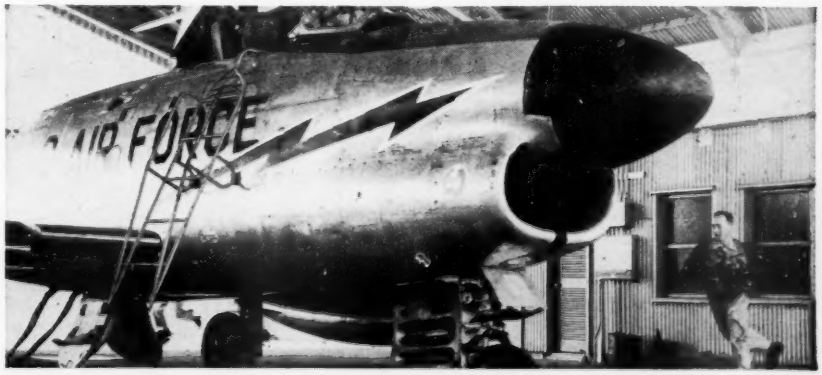
The use of these weapon systems is also dependent upon the principle of preventing "unnecessary duplication or overlapping among the services"—the principles of *effectiveness, economy, specialization,* and *unified control.*

The Functions Paper and the clarification papers assign the primary use of the Army's aerial vehicles, including missiles, to the battleground area, the combat zone . . . and to close-in "point" defense in the case of antiaircraft weapons, such as Nike. The Air Force is responsible for "area" air defense with airplanes and missiles. A range limitation of about 200 miles has been placed on Army surface-to-surface missiles. According to the March 1957 directive, this is the same general area in which most Army aviation will operate.

The Functions Paper and the Clarification Memorandum associate the Navy's primary use of aerial vehicles, including missiles, with the Navy's mission of control of the seas. The Navy has sole responsibility for operational employment of the ship-based Intermediate Range Ballistic Missile.

The Air Force uses planes and missiles of all kinds that can be used in support of the Air Force's assigned missions. Missiles have not changed the missions assigned to the Air Force. On the other hand, they will help the Air Force perform its many aerial jobs, including air defense and long- and intermediate-range air bombardment, and interdiction.

The overall Air Force job has not changed in the past 10 years. It is even more important today than in 1947 for our Nation to have a centrally controlled air arm, able to gain and maintain general air supremacy for the sake of a world at peace.



Air Defense Command fighter-interceptor pilot runs from alert room in scramble to intercept unidentified planes. He can be airborne within two to four minutes.

CHIEF OF STAFF, USAF

General Thomas D. White

On July 1, General Thomas Dresser White became the fourth Chief of Staff of the Air Force since it became a separate service. The new Chief of Staff has extensive diplomatic and combat-command experience.

He was born in Walker, Minn., on Aug. 6, 1901, the son of a Methodist bishop. He entered the U.S. Military Academy before the "legal" age for entry and his father had to pay his food bill until he reached his 17th birthday. One of the youngest West Point graduates in history, he was commissioned a second lieutenant in 1920 when only 18 years old.

After a tour with the 14th Infantry Division in the Panama Canal Zone, General White entered flying training and received his wings in 1925.

His diplomatic assignments, which began in 1927 with a tour in Peking, where he flew with the U.S. Marine Corps Expeditionary Force, have been almost global in nature. He has served in Athens, Rome, Rio de Janeiro, and Moscow. In the latter assignment he served as Military Attaché for Air in 1934, immediately after the United States recognized the USSR.

His last diplomatic assignment began in 1940 when he was named Military Attaché to Brazil and Chief of the U.S. Military Air Mission to that nation. General White is an ardent ichthyologist and spent his off-duty hours in Brazil exploring jungle streams. Brazil recently named a fish, which he discovered, for him.

These assignments have made General White one of the Air Force's top linguists. He speaks Chinese, Italian, Portuguese, French, Russian, Greek, and Spanish fluently. He has studied Japanese, but does not claim to speak it. While serving in New Guinea during World War II he studied Micronesian dialects and learned others in the Philippines.

During World War II, General White was Deputy Commander of the 13th Air Force during the Leyte campaign and the liberation of the Philippines. In June 1945 he assumed command of the 7th Air Force based on Saipan. A month later it began moving to Okinawa for the intensified air war against Japan proper.

During this period the 7th Air Force concentrated a large part of its strategic effort against the key city of Nagasaki, destroying the docks and the famous Mitsubishi aircraft factory. Other elements attacked Japanese air installations in China and conducted shipping sweeps of the waterways between Japan and Korea.

After the surrender of Japan, General White became chief of staff of the Pacific Air Command (later designated Far East Air Forces) in Tokyo. A year later he assumed command of the 5th Air Force. In 1948 he was assigned to the Office, Secretary of the Air Force and named Director of Legislation and Liaison.

Subsequent assignments include those of Air Force member of the Joint Strategic Survey Committee in the Office of the Joint Chiefs of Staff; Special Assistant to the Deputy Chief of Staff for Operations; Director of Plans; and Deputy Chief of Staff for Operations.

In 1953 he was named Vice Chief of Staff serving in that assignment until he assumed his present position. He is a command pilot, combat observer, and technical observer.

VICE CHIEF OF STAFF, USAF

General Curtis E. LeMay

General LeMay was born in Columbus, Ohio, Nov. 15, 1906. He was graduated from Ohio State with a Bachelor of Engineering degree in June 1928. His Air Force career began in a pursuit squadron at Selfridge Field, Mich., where he was assigned as a second lieutenant on completion of flying training at Kelly Field in 1929.

In 1937 and 1938 General LeMay participated in two good-will South American flights in B-17s. The latter flight earned the group the Mackay Trophy. Just prior to World War II he pioneered the aerial ferry routes to Africa via South America and the South Atlantic and to England via the North Atlantic.

When the United States entered World War II, General LeMay trained the 305th Bombardment Group and took it to England in 1942. With this group he initiated the lead crew system to improve bombing accuracy. He also put into tactical use the combat formation utilizing 18 aircraft in each group. Both techniques were later adopted by B-29 units which he commanded.

In 1945 he assumed command of the 21st Bomber Command (later the 20th Air Force) based in the Marianas Islands. During this period the strategic air war was carried directly to Japan proper on an intensified scale.

After the surrender of Japan, General LeMay was assigned to Headquarters Air Materiel Command and in December of 1945 he was appointed Deputy Chief of Staff for Research and Development at Headquarters in Washington. Two years later he was named Commanding General of USAFE where he initially directed the Berlin airlift.

He became Commanding General of the Strategic Air Command in 1947 and continued in that position until his present appointment. During this period, General LeMay developed SAC to its present high state of combat readiness through training techniques which approximated actual war requirements.

General LeMay is a command pilot, combat observer, aircraft observer, and technical observer.

SURVIVORS' BENEFITS

by Logan E. Hysmith
Personal Affairs Branch, Hq USAF

In the year that has elapsed since the first press release announced the President's approval on Aug. 1, 1956 of Public Law 881, the "Servicemen's and Veterans' Survivor Benefits Act," numerous articles have appeared in base newspapers, newsletters, and other periodicals explaining the new law. Most of them pointed out how the individual airman's family would benefit in the event that he became a casualty. In addition, various official pamphlets and publications have clearly spelled out how the act would be administered.

In spite of all these efforts, however, there is still some misunderstanding as to just how the law works, and, as a result, many airmen have hastily concluded that they lost something under the new law. This is a mistaken idea.

In this article we will attempt to answer questions most frequently asked about survivors' benefits and explain how the law works for various grades of Air Force personnel. Let's begin by describing who is covered by the law and what benefits are provided.

Who Is Covered?

Personnel covered by the Servicemen's and Veterans' Survivor Benefits Act include:

★ All members while on active duty, or active duty for training (such as 15-day tours);

★ All members of the Air Force Reserve and Air National Guard who die from injuries incurred on inactive-duty training (e. g. weekend flying, etc.) and while traveling to and from such training;

★ Members of AFROTC when ordered to active duty for training (summer camps) for 14 days or more; and

★ Air Force Academy cadets.

What Benefits Are Provided?

Death Gratuity

The first of these benefits is the Six Months' Death Gratuity which is payable in the following order: First, to the legal widow, or if there be none, to surviving children share and share alike. If no widow or children survive, the serviceman may designate his mother or father, brothers or sisters, or such of them as he may desire to receive the gratuity. If he doesn't make a designation, then it is payable in equal shares to the mother and father, and, if no parents survive, equally to the brothers and sisters.

The amount of the gratuity is six times the total monthly pay (not including allowances) the member

---

This article covers only the positive aspects of the new Servicemen's and Veterans' Survivor Benefits Act. The effect of the act on servicemen who either have or have had a policy of National Service Life Insurance (NSLI) or U.S. Government Life Insurance (USGLI) is not discussed. In succeeding issues, THE AIRMAN will carry items on various other situations.

Here are a few things to remember:

★ If you have a policy under waiver of premiums, either term or permanent plan, your family would not be entitled to receive the new Indemnity Compensation should you become a casualty. Instead, they would receive, in addition to the proceeds of the policy, monthly income based on the Death Compensation laws in effect prior to Jan. 1, 1957, which provide $69.60 for a widow instead of the Indemnity Compensation rates which pay a minimum of $122 monthly.

★ There are members of the Air Force who have no eligible dependents. In this case it would not be especially advantageous to revoke the waiver on permanent plan policies unless the dividends that would be payable are in excess of the value of the waiver. You should contact the Veterans' Administration to get the answer to this question, since only they can estimate dividends with a degree of accuracy, and they also compute the value of the pure-risk insurance portion of the premium waived on permanent plan policies. The waived portion of a term policy is the term premium.

★ There are also members with a large number of children under age 18. To obtain the answer concerning rates payable in this family situation, compute the amount that would be payable in your situation by reference to the tables on page four, AFP 34-1-21, Veterans' and Dependents' Benefits, 24 Dec. 1956. You should be able to estimate the date when the death compensation rates for the number of children remaining at home under age 18 would be less than would be payable to the wife from Indemnity Compensation.

Bear in mind that as your pay increases, either as a result of promotion or years of service, the Indemnity Compensation rate automatically increases. Even after your death, increase in active-duty pay would mean an increase in Indemnity Compensation rates.

★ Another point to remember, if you have permitted a policy of Government life insurance, either NSLI or USGLI, to lapse, expire, or have cash surrendered it, you may reinstate, renew or replace it, as applicable, at any time while on active duty or within 120 days thereafter. Instructions issued by Hq USAF give the administrative procedures for taking the appropriate action in each situation.

received or was entitled to receive on his last day of active duty, with these exceptions: there is a minimum payment in any case of $800 (payable when six times the monthly pay is under that sum) and a maximum of $3,000 (payable when six times the monthly pay is more than this amount).

The gratuity is also payable in cases of death occurring within 120 days after separation from the service, release from active duty, or discharge if death results from disease or injury incurred or aggravated by the service. In the case of reservists on inactive-duty training, it is payable only for injury (not disease) incurred or aggravated as a result of such duty.

Dependency and Indemnity Compensation

The second benefit payable is Dependency and Indemnity Compensation, popularly called "Indemnity Compensation." This newly established benefit is a combination of the former Death Compensation and the Servicemen's Indemnity—popularly known as "$10,000 Free Insurance," and is payable in all cases of death of servicemen, either while on active duty or after release or separation provided the death was from service-connected causes. This benefit is payable for life to a surviving widow or until her remarriage. Where there is no eligible widow, the Indemnity Compensation is payable to minor children. Notwithstanding the fact that a surviving widow or dependent children may be receiving monthly Indemnity Compensation payments, an amount is also payable to parents who might be dependent upon the serviceman or who become dependent after his death. The amounts payable in these different situations are explained below.

A *widow* is entitled to receive $112 monthly, plus 12 percent of the serviceman's base pay. What this amount comes to for all grades is shown in Table 1.

Where there is a *widow, each child* may be paid $35 per month, beginning when a child reaches age 18, and continuing so long as the child is enrolled in a VA-approved school. This payment will not continue after a child reaches his or her 21st birthday or marries. In the case of a helpless child, the rate of $70 per month may be paid when the youngster reaches 18 years of age, and continues as long as he or she remains incapable of self-support. If such a child should marry the payment stops.

Children of deceased members of the Air Force of all grades are also entitled to Indemnity Compensation, where there is no eligible widow. The law provides a payment of $70 per month for one child; $100 for two children; $130 for three children; and $25 for each additional child. An additional $25 is payable in the case of a child over 18 who becomes permanently incapable of self-support prior to reaching that age. The same rate continues after age 18 in the case of children attending school. Where there is only a helpless child remaining eligible for benefits, $25 per month is added to the $70 mentioned above.

Dependent parents are eligible for Indemnity Compen-

Table I

DEPENDENCY AND INDEMNITY COMPENSATION FOR WIDOWS UNDER THE SERVICEMEN'S AND VETERANS' SURVIVOR BENEFITS ACT

Pay grade	Under 2	Over 2	Over 3	Over 4	Over 6	Over 8	Over 10	Over 12	Over 14	Over 16	Over 18	Over 22	Over 26	Over 30
COMMISSIONED OFFICERS														
O–8	$228.00	$228.00	$235.00	$235.00	$235.00	$235.00	$235.00	$235.00	$235.00	$235.00	$235.00	$235.00	$235.00	$242.00
O–7	209.00	209.00	215.00	215.00	215.00	215.00	215.00	215.00	215.00	215.00	215.00	215.00	221.00	229.00
O–6	184.00	184.00	188.00	188.00	188.00	188.00	188.00	188.00	188.00	191.00	199.00	202.00	206.00	210.00
O–5	169.00	169.00	173.00	173.00	173.00	173.00	173.00	176.00	180.00	182.00	186.00	189.00	193.00	193.00
O–4	161.00	161.00	164.00	164.00	164.00	167.00	171.00	172.00	174.00	176.00	180.00	182.00	184.00	184.00
O–3	152.00	152.00	155.00	157.00	161.00	163.00	165.00	167.00	169.00	171.00	172.00	174.00	174.00	174.00
O–2	144.00	145.00	153.00	153.00	155.00	156.00	158.00	160.00	162.00	162.00	162.00	162.00	162.00	162.00
O–1	139.00	141.00	148.00	148.00	150.00	152.00	154.00	156.00	157.00	157.00	157.00	157.00	157.00	157.00
WARRANT OFFICERS														
W–4	$152.00	$155.00	$155.00	$155.00	$157.00	$159.00	$161.00	$163.00	$167.00	$169.00	$171.00	$172.00	$174.00	$176.00
W–3	149.00	151.00	151.00	151.00	152.00	153.00	154.00	156.00	157.00	158.00	161.00	164.00	166.00	168.00
W–2	144.00	146.00	146.00	146.00	147.00	149.00	151.00	153.00	154.00	155.00	157.00	159.00	161.00	163.00
W–1	139.00	143.00	143.00	143.30	145.00	147.00	148.00	149.00	150.00	151.00	153.00	155.00	157.00	157.00
ENLISTED PERSONS														
E–7	$137.00	$139.00	$139.00	$140.00	$141.00	$143.00	$144.00	$145.00	$146.00	$147.00	$149.00	$151.00	$153.00	$153.00
E–6	134.00	135.00	135.00	136.00	138.00	139.00	141.00	141.00	142.00	143.00	145.00	147.00	147.00	147.00
E–5	130.00	132.00	132.00	134.00	135.00	137.00	138.00	139.00	140.00	141.00	142.00	143.00	143.00	143.00
E–4	127.00	129.00	129.00	132.00	133.00	134.00	135.00	136.00	137.00	138.00	139.00	139.00	139.00	139.00
E–3	124.00	127.00	127.00	128.00	129.00	130.00	131.00	132.00	132.00	132.00	132.00	132.00	132.00	132.00
E–2	123.00	125.00	125.00	126.00	127.00	127.00	128.00	128.00	128.00	128.00	128.00	128.00	128.00	128.00
E–1	122.00	124.00	124.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00
E–1 (under 4 mos.)	122.00	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

Table 2

SURVIVORS' BENEFITS — Dependent Parents	TOTAL ANNUAL INCOME		TOTAL MONTHLY BENEFITS
TWO PARENTS	$ 0	1000	$ 100
	1000	1350	80
	1350	1700	60
	1700	2050	40
	2050	2400	20
	2400		0
ONE PARENT	$ 0	750	$75
	750	1000	60
	1000	1250	45
	1250	1500	30
	1500	1750	15
	1750		0

sation, based on a sliding scale which provides certain basic amounts when income falls below specified levels. This is a slight increase in rates over those previously in effect. Table 2 sets forth the amount payable to one dependent parent having an income of less than $1,750 and for two parents when their combined income falls below $2,400 per year.

Here's how this benefit works. Eligibility of parents to receive Indemnity Compensation depends upon amount of their annual income. In determining eligibility, the VA takes into consideration and excludes certain items of income considered exempt. Among these are the Six Months' Death Gratuity, amounts received under the survivors' benefits law as a result of death of some other member, payment of any death or disability compensation under any other law Congress has passed which is administered by the VA, and certain other benefits.

Many a member of the Air Force feels that his parents, regardless of dependency, should be entitled to some payment in the event of his death. However Congress has determined that dependency should be considered a prerequisite to payment of Indemnity Compensation. This is presumed to exist in the case of a wife and children, and in the case of parents according to the degree of actual need.

It is important for you to understand that from the standpoint of protection of your parents for the remainder of their lives, you are actually receiving a much better deal under the new law than you did before. The stumbling block is a mental picture each person has of a pile of money consisting, say, of one thousand $10 bills in a stack, which he assumes is what his family would receive from the Servicemen's Indemnity. This indemnity was not actually an insurance policy. It merely provided for the payment of $92.90 per month for 120 months to certain designated next of kin—the wife, child or children, parent or parents, or brothers and sisters; either in the order named, or as designated by the serviceman.

In addition, parents who were actually dependent at the time of the serviceman's death received at most $80 per month as death compensation payment. Thus, if two dependent parents survived the serviceman and were sole beneficiaries of the Servicemen's Indemnity, they could receive $172.90 ($92.90 plus $80) per month for 120 months or ten years. Thereafter they would get $80 per month for the remainder of their lives, assuming they remained in a dependent status. If only one parent survived, the amount would be cut to $75. This had two disadvantages, both of which have been removed in the new law.

The first is that a parent who would not be considered dependent under the old law because of his income may nevertheless qualify for a reduced amount of Indemnity Compensation—perhaps $60 or $45 a month or less, depending on the amount of his other income. The second was that if the serviceman was married, since the total amount of the Servicemen's Indemnity was fixed at $92.90 per month for 120 months, any share selected for the wife and children had to be taken from the parents. Thus, parents, widow, and children all shared in the $92.90 per month indemnity payment. In the case of nondependent parents, their share of the indemnity, if any, was all that they could ever hope to get.

Table 2 shows how monthly benefits for surviving parents are related to total annual income. If the parents' total annual income is less than $1,000, the total monthly benefits are $100 for as long as the two live and the income remains in that bracket. When one parent dies, the remaining parent will get $75 for life, unless other income increases.

Moreover, the new law protects widows, children, and parents. Benefits are geared to needs, not to an arbitrary fixed sum. Dependent parents qualify for survivors' benefits solely on the basis of their need and irrespective of the fact that the widow or children may also be drawing survivors' benefits.

These provisions should give every member of the Air Force a feeling of comfort that the old law never could. You have the assurance that even though your parents are not now dependent on you, the Government will never allow their incomes to drop below a certain level if anything should happen to you. And this guarantee is added to the Government's responsibility to provide a monthly income to your widow and/or children.

There may be a few situations where the new law might work to an individual's disadvantage, especially in cases of a single man whose elderly parents are now dependent upon him. But these situations are far outweighed by the many instances where members of the Air Force, their wives, and parents, receive greatly increased protection and security.

Social Security

The third type of benefit which we will cover is not entirely a survivor's benefit, but it provides both retirement benefits for servicemen and survivors' benefits to his dependents. In one airman's words, "this is one benefit you don't have to die to win."

Beginning Jan. 1, 1957, all of you were placed under the Social Security system and started making regular contributions to Social Security amounting to 2¼ percent of your basic pay under $4,200 per year. To state it another way, the contribution is paid on the first $4,200 received in any one year and the maximum annual contribution cannot exceed $94.50 per year. This is the same coverage extended to individuals working in private industry, and provides members of the Air Force and their families with the same benefits.

Social Security coverage provides:

★ Added retirement benefits for the serviceman at age 65 (age 62 for women);

★ Monthly income to a widow with children under 18 (or totally and permanently disabled children);

★ Monthly income for children under 18 (or totally and permanently disabled) where there is no eligible widow;

★ Monthly survivors' insurance for a widow at age 62; and

★ Monthly income to dependent parents where there is no eligible widow or child.

Since Social Security is comparatively new to most members of the Air Force, we'll briefly explain how the system works. Individuals establish their right to Social Security benefits (retirement benefits and survivors' insurance) by earning quarters of coverage. A quarter of coverage is defined as a calendar quarter (three-month period beginning Jan. 1, Apr. 1, July 1, or Oct. 1) in which an individual earns at least $50 through employment and pays Social Security contributions. Each quarter a member is on active duty he earns one quarter of coverage.

An individual must have 40 quarters of coverage (substantially ten years of active duty) to be fully (and permanently) insured. Being fully insured means that in the event of your death, or at age 65 (age 62 for women), your survivors or you would be entitled to at least the minimum payment provided under the Social Security law. It is the same principle as having paid-up life insurance—a benefit will be paid.

Another term that continually creeps into any discussion of Social Security is currently insured. A person is considered currently insured if he has at least 6 quarters of coverage (18 months active duty) during the 13 quarter periods ending with the quarter in which he dies or becomes eligible for Social Security retirement benefits. Stated another way, an individual must have been employed for substantially 18 of the last 48 months preceding the calendar quarter in which he dies or becomes eligible for Social Security retirement benefits.

Practically no one on active duty will have to worry about being currently insured. To give a currently insured status to every person on active duty, the new law provides that all military service between Jan. 1, 1951 and Jan. 1, 1957 will be considered as fully paid wage credits. If you have been on active duty since Jan 1, 1951, you came under contributory Social Security with 24 fully paid quarters of coverage, plus any quarters earned from civilian employment prior to Jan. 1, 1951. If you have been on active duty for a lesser period, the number of quarters of coverage you have earned depends on the number of calendar quarters you served between those two dates.

The law also provides that in case of death after Jan 1, 1957, each member will be considered as being currently insured.

The law also takes into consideration those very important members of the Air Force who have reached or will soon reach their 50th birthday. Social Security considers the fact that in any group coming under the system there will be those above 50 who have had no Social Security credits. In such cases, the law provides that it is not necessary to have 40 quarters of coverage to be fully insured.

For example, an individual 52 years old is insured to age 65 when he has earned 39 quarters of coverage. For those who have been on active duty since Jan. 1, 1951, this means that through the third quarter of 1957 they have earned 27 quarters, leaving only 12 additional to be earned to fully insure them. A table giving this information by year of birth was included in AFP 34-1-16, Personal Affairs Guide (Social Security), 1 Jan. 1957.

The amount of income to which the member will be entitled as an added Social Security retirement benefit, or to which his survivors may be entitled, is based upon the average wage computed over his entire earning period according to various methods which the Social Security Administration utilizes. The usual method is to take the individual's total earnings under Social Security from his 22d year (or Jan. 1, 1951, whichever is later) to his 65th or her 62d year, and (after dropping out five years in which he experienced low earnings) divide the total by the calendar months elapsing. In any event, the Social Security Administration will pay benefits based upon the formula which provides the highest average wage.

Table 3 shows benefits payable for various average wages. An explanation of benefits applicable is also given in the discussion on typical situations.

Typical Situations

Naturally, all of us judge any legislation which provides benefits by what it does for us personally or for our families. Let's look at the various categories of Air Force personnel from the standpoint of family situation:

1. A married member of the Air Force with a wife and no children;

Table 3—*OLD AGE INSURANCE AND SURVIVORS BENEFITS*

MONTHLY SURVIVORS BENEFITS

Retirement Benefit Age 65—Or Disability Benefits Age 50—Men or Women

Average monthly earnings (1)	Eligible member (2)	Eligible member & wife (3)	Widow over 62 (4)	Widow and 1 child (5)	Widow and 2 or more children (6)	1 child no widow (7)	2 children no widow (8)	3 children no widow (9)	4 children no widow (10)	One dependent parent (11)	Two dependent parents (12)	Lump-sum death payment (13)
$ 45	$ 30.00	$ 45.00	$ 30.00	$ 45.00	$ 50.20	$ 30.00	$ 45.00	$ 45.00	$ 45.00	$ 30.00	$ 45.00	$ 90.00
$ 80.00	44.00	66.00	33.00	66.00	67.50	33.00	55.00	66.00	66.00	33.00	66.00	132.00
$ 90.00	49.50	74.30	37.20	74.30	74.30	37.20	62.00	74.40	74.40	37.20	74.40	148.50
$100.00	55.00	82.50	41.30	82.50	82.50	41.30	68.80	82.80	82.80	41.30	82.60	165.00
$110.00	60.50	90.75	45.40	90.80	90.80	45.40	75.80	90.90	90.90	45.40	90.80	181.50
$120.00	62.50	93.75	46.90	93.80	96.00	46.90	78.20	96.00	96.00	46.90	93.80	187.50
$130.00	64.50	96.80	48.40	96.80	104.00	48.40	80.80	104.10	104.10	48.40	96.80	193.50
$140.00	66.50	99.80	49.90	99.80	112.00	49.90	83.20	112.20	112.20	49.90	99.80	199.50
$150.00	68.50	102.80	51.40	102 80	120.00	51.40	85.80	120.00	120.00	51.40	102.80	205.50
$160.00	70.50	105.80	52.90	105.80	128.00	52.90	88.20	123.60	128.00	52.90	105.80	211.50
$170.00	72.50	108.80	54.40	108.80	136.00	54.40	90.60	126.90	136.00	54.40	108.80	217.50
$180.00	74.50	111.80	55.90	111.80	144.00	55.90	93.20	130.50	144.00	55.90	111.80	223.50
$190.00	76.50	114.80	57.40	114.80	152.00	57.40	95.80	134.10	152.00	57.40	114.80	229.50
$200.00	78.50	117.80	58.90	117.80	157.00	58.90	98.20	137.40	160.00	58.90	117.80	235.50
$210.00	80.50	120.80	60.40	120.80	161.00	60.40	100.80	141.00	168.00	60.40	120.80	241.50
$220.00	82.50	123.80	61.90	123.80	165.00	61.90	103.20	144.60	176.00	61.90	123.80	247.50
$230.00	84.50	126.80	63.40	126.80	169.00	63.40	105.80	147.90	184.00	63.40	126.80	253.50
$240.00	86 50	129.80	64.90	129.80	173.00	64 90	108.20	151.50	192.00	64.90	129.80	255.00
$250.00	88.50	132.80	66.40	132.80	177.00	66.40	110.80	155.40	199.20	66.40	132.80	255.00
$260.00	90.50	135.80	67.90	135.80	181.00	67.90	113.20	158.40	200.00	67.90	135.80	255.00
$270.00	92.50	138.80	69.40	138.80	185.00	69.40	115.80	162.00	200.00	69.40	138.80	255.00
$280.00	94.50	141.80	70.90	141.80	189.00	70.90	118.20	165.60	200.00	70.90	141.80	255.00
$290.00	96.50	144.80	72.40	144.80	193.00	72.40	120.80	168.90	200.00	72.40	144.80	255.00
$300.00	98.50	147.80	73.90	147 80	197.00	73.90	123.20	172.50	200.00	73.90	147.80	255.00
$310.00	100.50	150.80	75.40	150.80	200.00	75.40	125.80	176.10	200.00	75.40	150 80	255.00
$320.00	102.50	153.80	76.90	153.80	200.00	76.90	128.20	179.40	200.00	76.90	153.80	255.00
$330.00	104.50	156.80	78.40	156.80	200.00	78.40	130.80	183.00	200.00	78.40	156.80	255.00
$340.00	106.50	159 80	79.90	159.80	200.00	79.90	133.20	186.60	200.00	79.90	159.80	255.00
$350.00	108.50	162.80	81.40	162.80	200.00	81.40	135.80	189.90	200.00	81.40	162.80	255.00

2. A married member with a wife and children;

3. A member with only dependent parents, or he may have them in addition to a wife and/or children;

4. A member who has no wife, but has dependent children; and

5. A member with no dependents.

1. Married Serviceman, No Children

Consider the case of a serviceman whose wife is his only dependent. Under the new survivors' benefits act the wife is presumed to be dependent on the serviceman and would be entitled to an Indemnity Compensation payment which is computed by taking 12 percent of his base pay (not including allowances) and adding $112 to it. This provides the wife with a life income of from $122 per month, in the case of a member in pay grade E-1 with less than 2 years of service, up to $242 per month payable to the widow of a major general with 30 years' service.

Chart 1 shows the amount payable in the case of an airman first class with over four years' service who dies leaving a wife. The wife would be entitled to $132 monthly Indemnity Compensation payment for life, and at age 62, the added sum of at least $52.90 per month Social Security payment.

2. Serviceman with Wife and Children

Chart 2 covers the typical case of a master sergeant with 16 years' service who leaves a wife, age 33, and children 13 and 9. His wife would be entitled to $147 per month Indemnity Compensation for the remainder of her life or until she remarries. In addition, for as long as her two children were under 18, she would receive a minimum of $128 per month from Social Security survivors' insurance. Where there is only one child under 18, the amount drops to $105.80 per month, and stops entirely when the child reaches 18. To compensate for loss of Social Security, as each child reaches 18 Indemnity Compensation of $35 per month would be paid for each child as long as he or she remained in school.

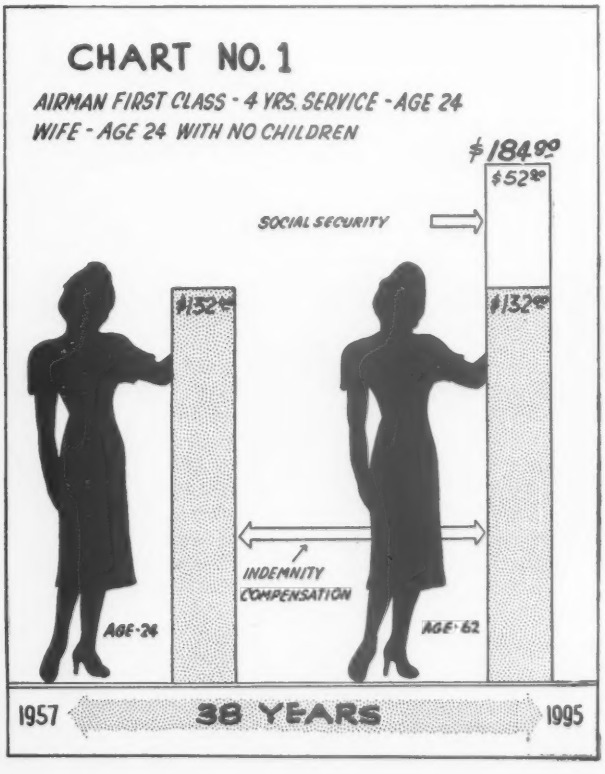
The amounts shown as Social Security survivors' insurance for the children in this example are minimum amounts, based upon an average wage of $160 per month. The longer the period of time elapsing from Jan. 1, 1957 until a serviceman dies or reaches Social Security retirement age, the more he receives from Social Security, depending upon his pay. The master sergeant, at most, could not hope to have an average wage computed over his years of service much in excess of approximately $330 per month. The reason for this? When members of the Armed Forces were placed under contributory Social Security they were granted wage credits for Social

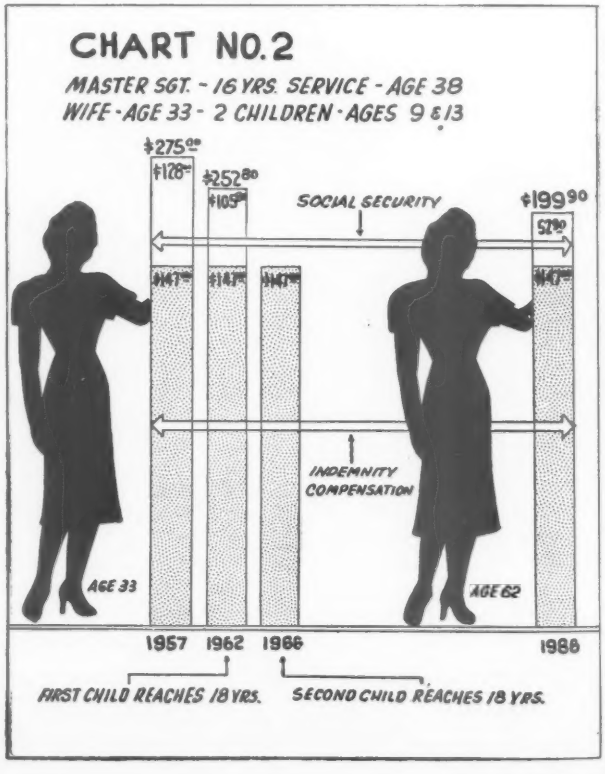
Security purposes from Jan. 1, 1951 to Jan. 1, 1957 at the rate of $160 per month, just as if they had been making contributions all along. This was a free wage credit given to all members of the Armed Forces, regardless of grade. Now that they are paying contributions to Social Security based upon their actual pay, all grades where pay is in excess of $160 per month will find that their average wage upon which Social Security benefits are computed will gradually increase from month to month. In the typical case of the master sergeant, his average wage will reach about $260 per month by 1960. The only members whose survivors would receive less than the amount of Social Security shown on Chart 2 are those now entering the service who, after several years, receive less than $160 base pay.

Let's take another typical example in this same category. Chart 3 shows the case of a captain with ten years' service who dies leaving a wife, 29, and three children, ages 7, 6, and 3. Immediately upon his death, which we will assume occurs in 1960, his wife would be entitled to monthly Indemnity Compensation amounting to $165, payable for the remainder of her life, or until her remarriage. In addition, she would be entitled from Social Security survivors' insurance to $197 per month for three children, based upon a presumed average wage of $300 per month. When there are but two children under 18, the amount remains $197 per month, and is reduced to $147.80 when there is only one child under 18 remaining. To compensate for loss of Social Security, as each child reaches 18 Indemnity Compensation of $35 per month would be paid for each child as long as the child remains in school. At 62, the widow will receive $73.90 per month Social Security survivors' insurance in her own right.

3. Serviceman, with Dependent Parents

The third category is a member of the Air Force whose dependent parents have no income except that which he is able to give them or are not dependent upon him at time of his death, but due to age or poor health, become dependent after his death and have no income from any source. In either case, as shown in Table 2, they would receive payments which can total $100 per month from the VA as Indemnity Compensation, and at least a minimum payment of $45 per month from Social Security survivors' insurance. This is payable even though a widow or surviving children may be eligible and drawing Indemnity Compensation. If the serviceman had an average wage of $160 for Social Security purposes, the income from Social Security could reach as much as $106 per month, but in such a case Indemnity Compensation would be reduced to $40 per month each. For those who continue in the service and are under Social Security for a sufficient period of time to earn an average wage of $350 per month, the maximum amount which Social Security could provide to dependent parents would be $162.80





per month and Indemnity Compensation would be reduced to $40 per month ($20 to each parent).

4. Serviceman with No Wife, but Dependent Children

Next consider the case of a member of the Air Force who has no wife, but has dependent children. The basic benefit for dependent children is provided by Social Security, and the amount payable would depend upon the average wage of the individual, computed either to the date of his death or age 65, whichever is applicable.

Let's examine the typical case of a serviceman who has a base pay of $350 per month. This serviceman cannot reasonably expect to have an average wage in excess of $330 per month after making contributions to Social Security for only four years. If he died leaving four children and no widow, they would be entitled to $200 per month Social Security payment. When only three children are under age 18, the amount would be reduced to $183; when there were two remaining, $130.80; and a single child would receive $78.40. To this sum would be added the monthly Indemnity Compensation which, in the case of four children, would be $155, making a total payment of $355 per month from Social Security and Indemnity Compensation. For three children, the Indemnity Compensation would be $130, added to the $183 Social Security payment, making $313 per month from both sources. Two children would be entitled to $100 per month Indemnity Compensation which, in addition to the $130.80 Social Security payment, provides an aggregate income of $230.80 per month; and the $70 payable for one child, added to the $78.40 Social Security, would total $148.40.

Social Security payments for children stop when they reach 18, unless they are totally and permanently disabled. However, Indemnity Compensation continues after the child is 18 if he or she is in school. Where a child is incapable of self-support, $25 is added to the $70 payment, and payments continue for life or until the child is married or becomes capable of self-support.

5. Serviceman with No Dependents

The last situation concerns a serviceman who has no dependents—neither wife, children, nor parents. In such cases no Indemnity Compensation or Social Security survivors' insurance would be payable. The Six Months' Death Gratuity could be paid to brothers and sisters. This serviceman does gain, however, in that Social Security provides him with an added retirement benefit, payable at 65. As a minimum, any member who was fully insured, would be eligible to receive at least $30 per month. The amount of benefit is based upon the individual's average wage, as shown in the first column of Table 3.

New Law vs. Old System

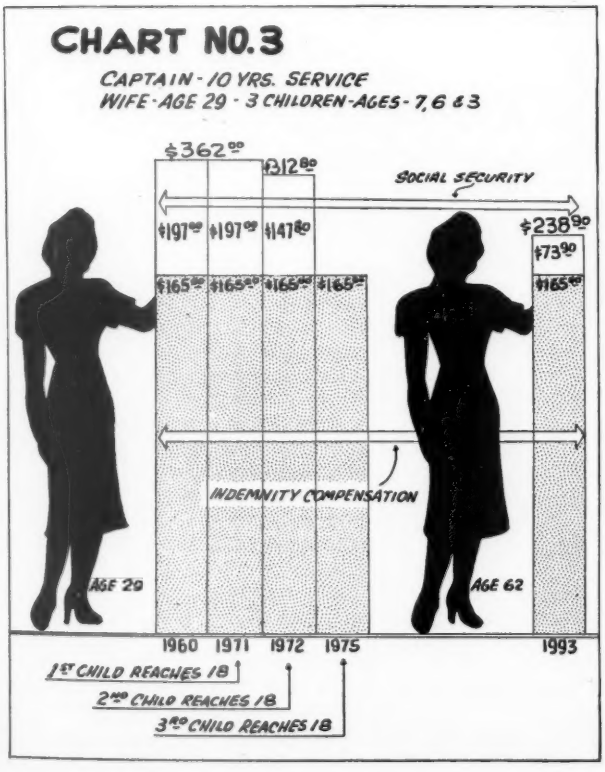
One of the best ways to determine exactly how the new survivors' benefits law compares with the old system is to look at the same family situation computed under both the old and new laws.

Take the case of a colonel with over 22 years' service who has a wife and three children. On page 16 Chart 4 (left) shows the amount of income the wife would receive under the old law for herself and children, and Chart 5 (right) the benefits payable under the new law after the colonel had been under contributory Social Security for five years.

The basic benefit for the widow, $202 per month Indemnity Compensation alone, will produce more income for the widow over her normal lifespan than all the benefits payable under the old system. In addition, if the colonel has any insurance, he can program that for payment to supplement the income during those years when her expenses would normally be the highest, that is, when children are in college or to pay for a home.

By comparison, it is evident that under the new law benefits have been equalized over the lifetime of the survivors, instead of starting at a very high level at time of death and gradually diminishing to almost nothing when the youngest child is 18. Under the old law if the widow could eke out an existence on $69.60 after that time until she is 62 years of age she would start drawing Social Security and look forward to spending the remaining years of her life with an income of about $123 per month instead of nearly $278 under the new system.

Benefits have been equalized for members of all components. Under the old law, as a strictly peacetime bene-

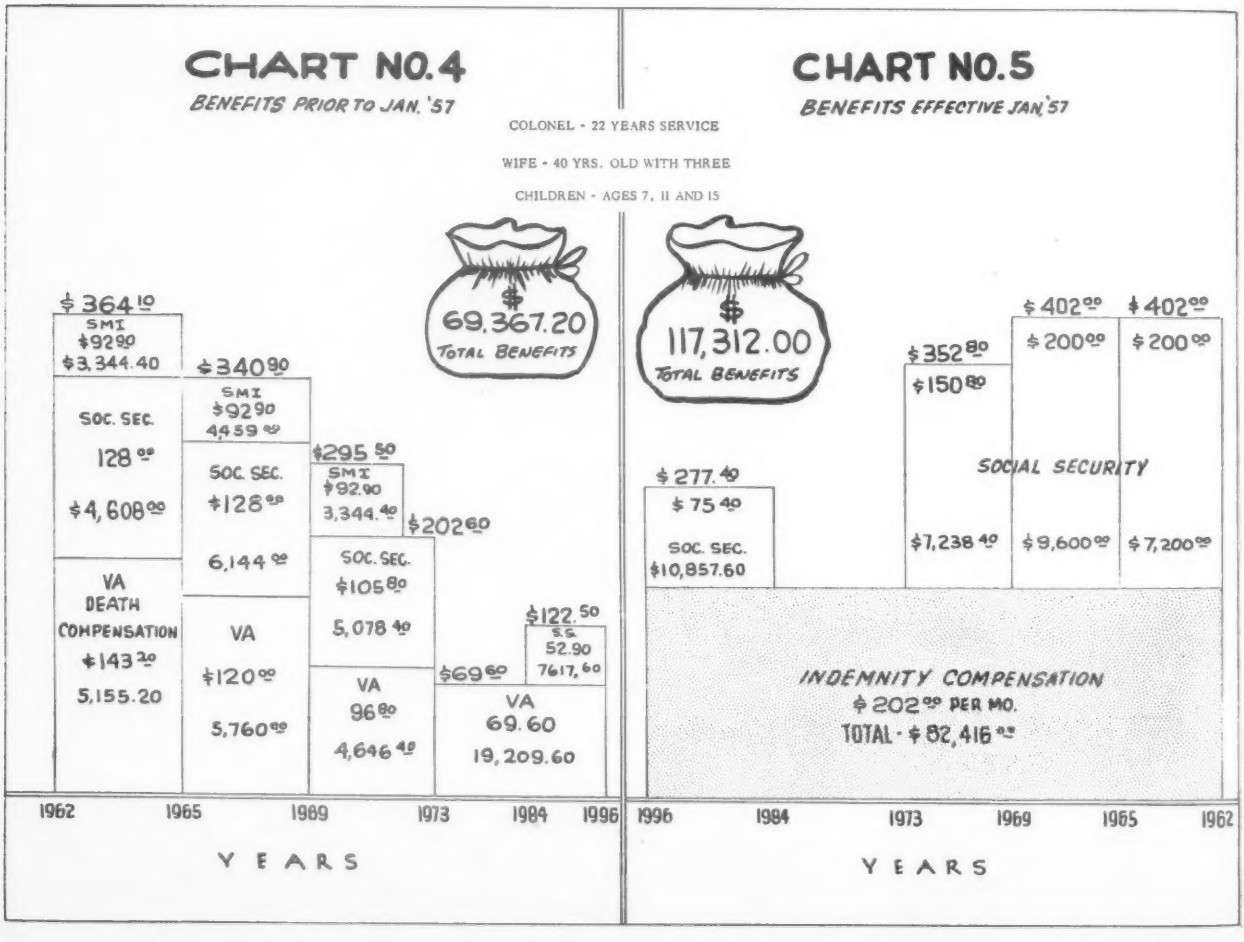


fit, the widow of a Reserve officer could receive up to 75 percent of her husband's pay and allowances under laws administered by the Bureau of Employees Compensation. The law authorizing such payments was repealed. Some reservists have also hastily concluded that they have lost benefits. Well, about 1 out of 13 have, since only that proportion of Reserve officers died as a result of peacetime operations during the years the law has been in effect. The reservist should look at it this way. From the standpoint of family security, in realistic benefits payable for all components who die during either peace or war, the new law offers more in the way of assured family income than any system applicable only to "certain officers" who die under circumstances entitling their families to benefits in peacetime.

New Look

From the foregoing it should be obvious that as an active-duty benefit, Public Law 881, the Servicemen's and Veterans' Survivor Benefits Act, has provided a new look at survivors' benefits. Bear in mind though that after retirement the Indemnity Compensation is not payable unless the retired member of the Air Force dies from a service-incurred or -aggravated condition. This means that while on active duty a serviceman is adequately protected, and that even after he reaches age 65, and his wife 62, they will be entitled to additional Social Security retirement benefits. But if he dies after retirement, not from service-incurred disabilities, his wife would receive nothing, except the possibility of a small pension, until she is 62 years of age when she could start receiving a survivors' insurance benefit from Social Security. However, in passing Public Law 239, the Uniformed Services Contingency Options Act (USCOA), in August 1953, Congress provided a method whereby retired personnel could establish an annuity for their widow and children by electing to receive a reduced amount of retired pay. How this program works is clearly explained in AFP 34-4-6, Informational Guide on USCOA.

Combining the benefits provided by these two laws assures you adequate family protection, regardless of whether death occurs while on active duty or after retirement. By familiarizing yourself with the provisions of these laws, you will be better able to evaluate your personal situation and plan for your family's security.



They don't bite, but

BEWARE OF THAPSM

"*Help!*" the scrawled message pleaded. "I've been snatched by a THAPSM at approximately 85,000 feet over Detroit. Need oxygen and new canopy."

A THAPSM, in case some of you earth-bound readers are wondering, is an abbreviation for a Tremendously Huge And Playful Space Monster, a creature that inhabits outer space. Not quite so elusive as the familiar World War II Gremlin that plagued that era's airmen, THAPSM have been encountered by sundry researchers of Wright Air Development Center's Aero-Med Lab.

The above message was scrawled on a piece of paper folded into a plane like those you sailed across the schoolroom. Capt. Hank Neilson picked it up from the sidewalk and checked the handwriting to see if it might disclose some culprit with litterbug tendencies. In the Aero-Med Lab where he works, there are psychologists who look for all sorts of tendencies—anywhere. Instead of a culprit, he found a fascinating off-duty research field.

That's how modern man rediscovered THAPSM, and since then Neilson and his cohorts have accumulated practically all the world's knowledge on this little-known animal. They have even constructed reasonable facsimiles at their lab benches by inflating rubber tubing.

A THAPSM is not really a vicious animal, nor is it even mischievous, as the Gremlin was. It is, Hank says, more like an overly affectionate Saint Bernard that might have followed Mary to kindergarten. And like children in a Saint Bernard kennel, some airmen hanging around the threshold of space have been literally scared out of their wits by THAPSM. No airmen have been swallowed, but it is suspected that some are being incubated.

"Yah, Yah, Ya can't catch me."

Female THAPSM, it seems, have a very, very strong maternal instinct. They are also marsupials—they have pouches like possums and kangaroos where they incubate their eggs and suckle their young. The bio-physicists have definite proof that THAPSM have attempted to stuff parachuting airmen, and even balloons, into their pouches after mistaking them for THAPSM eggs. This explains what has happened to most of the balloons sent aloft by Air Weather Service but never recovered. It might eventually explain the flying saucer myth.

THAPSM also complicate Captain Neilson's pet pastime, which is jumping out of balloons up at the edge of space and floating to earth under a parachute canopy. The playful monsters unintentionally steal the helium from his balloon every time they open their big mouths to yell, "Yah, Yah, Ya can't catch me." They are just huge gasbags with a strong attraction for helium. A diaphragm in their throat allows helium from the balloon to enter but it doesn't work in reverse. When the THAPSM starts playing around, the balloon stops rising.

Back in the eighth century, THAPSM were almost exterminated by a shower of meteors and a gallant knight. The meteor shower, well-recorded in history, punctured the gasbags of thousands of THAPSM, and being deflated they fell to earth right along with the fiery rocks. The clever Chinese patched them up, fed them just enough gas to get them off the ground, and made them an essential part of their ceremonial history. Of course, a lot of THAPSM that lived down through the centuries have been recently put to death by the Peoples Republic because they don't believe in them. But wherever Chinese live and are free, you can find these dragons, as they quaintly named the THAPSM, still leading ceremonial parades.

THAPSM grounded in Europe didn't fare so well, however. In those days there were no ungallant knights and the only way St. George could make a name for himself was by slaying the poor beasts. He misunderstood their motives when they chased fair damsels. Of course Aero-Med researchers now know the THAPSM only wanted to play. The last non-Chinese THAPSM left in the Western Hemisphere was brutally murdered a few years ago by a Hollywood singer named Stan Freberg.

But there are still plenty of well-inflated, but awfully bored, THAPSM hovering around 50,000 feet and upwards, beckoning airmen to come and play. Neilson keeps an autographed picture of one lovely female specimen with eight-foot eyes and yards-long eyelashes hanging on the wall of his office. His wife isn't jealous.

This project is pure fantasy to relax tired researchers and is in no way indicative of the work normally conducted at the Aero-Med Lab.

Family Housing

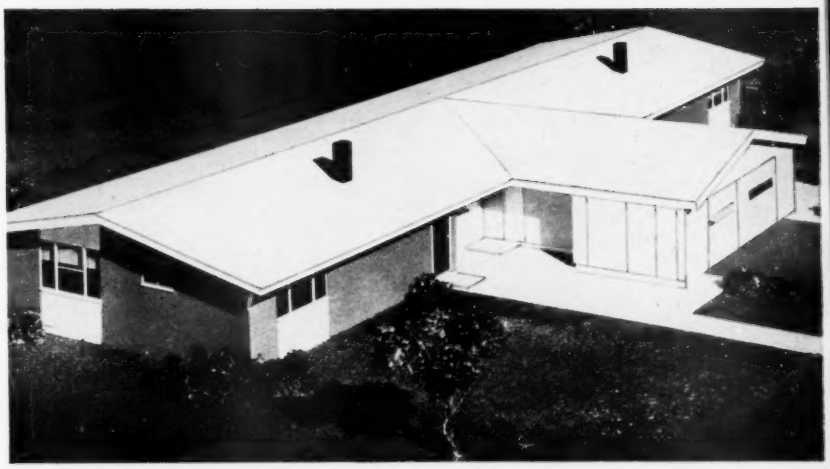
by T/Sgt. Harold L. Craven

Availability of adequate family housing ranks high in the thinking of many Air Force members when they weigh the decision whether to reenlist or return to civilian life.

The reason for this is easy to understand.

A high percentage of the men in

Moving into a new house is one of life's greatest pleasures. After the ribbon-cutting ceremony, the ladies usually inspect the kitchen. Refrigerators and ranges are standard equipment.



The 1,685-unit Capehart project at Plattsburgh AFB, N.Y., will include homes like these: senior officers' quarters (top); field-grade officers' quarters (center); and quarters for junior officers and NCOs (bottom).

whom the Air Force has its greatest training investment, its officers and NCOs, have family responsibilities now. Many unmarried airmen will eventually become heads of families and require housing.

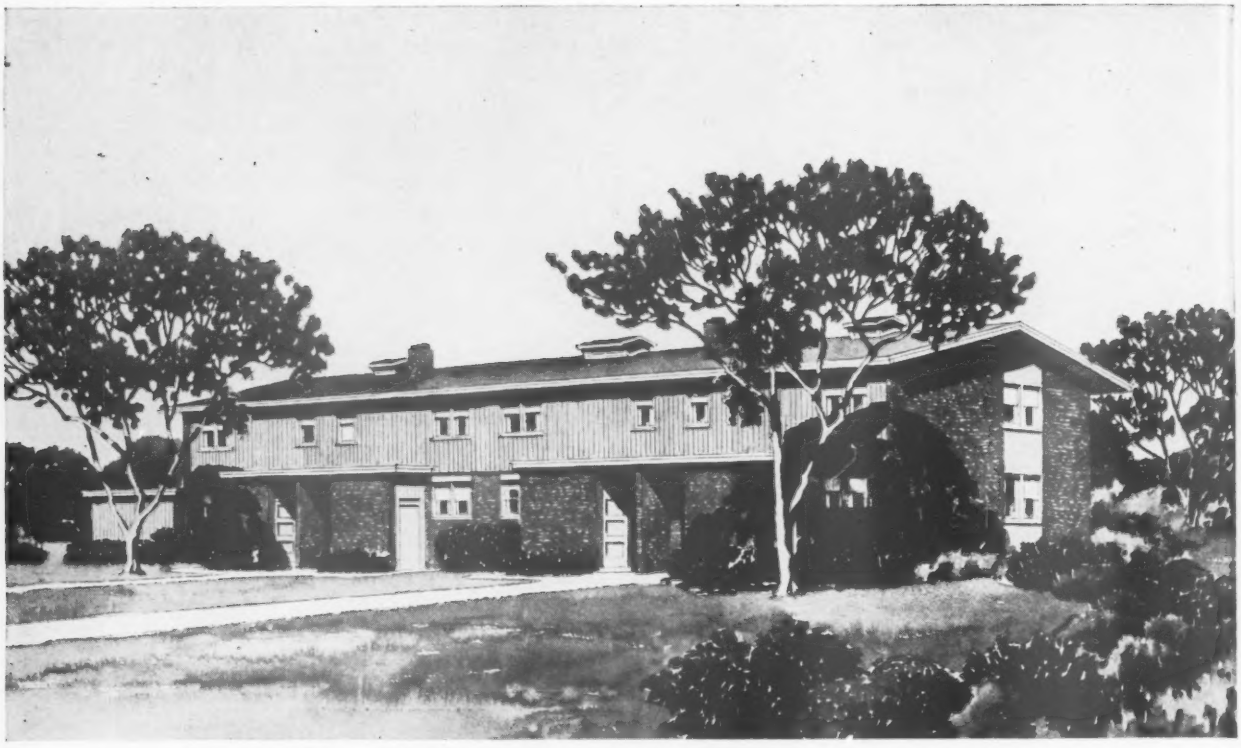
"Until we make some real progress in providing living quarters for our families, we are going to accept losses in combat capability and career incentive. These are unavoidable results of conditions that place our people at remote distances from the duty stations to which they would report in an emergency, and which exact payment of exorbitant rentals for inadequate quarters," General Thomas D. White, USAF Chief of Staff, said recently.

The Air Force realizes that it costs less to provide family housing for its technicians than to train replacements. A great amount of time and effort is being spent exploring additional means of getting more housing.

55,000 More Houses

At the beginning of the current fiscal year, 96,400 family units were available to Air Force personnel and 55,000 more units were programmed. Of the existing units, 13,000 are demountable trailers and 9,000 others are rated substandard.

Public quarters are government owned and are the traditional accommodations for service families. When sufficient quarters are unavailable, the Air Force member receives a basic allowance for quarters (BAQ). Construction of public quarters is paid for by direct appropriation or by authority of Title VIII of the National Housing Act (Capehart). The Air Force now has approximately 33,000 public quarters in use and 1,300 programmed for



Four-unit building designed for Air Force families at K. I. Sawyer Airport, Gwinn, Mich.

direct-appropriation construction during this fiscal year, along with 20,000 Capehart units for which bids have already been invited.

Capehart housing, authorized by Congress in 1955, does not require appropriated funds. These houses, constructed by private industry, become public housing upon completion. Air Force members are assigned these quarters and their quarters allowances are applied as mortgage payments. The Air Force hopes to have most of its current program of 42,000 Capehart units by the end of next year.

Farm Surplus Buys Houses

Surplus commodity housing, built by foreign capital in exchange for U. S. farm products, provides living accommodations for about 1,200 Air Force families overseas. Approximately 8,800 more units are planned for Fiscal Year 1958, but time will tell whether this means of purchasing houses will actually meet Air Force requirements. These houses are assigned as public quarters and the Air Force pays the Department of Agriculture for the farm commodities from the yearly appropriation for allowances.

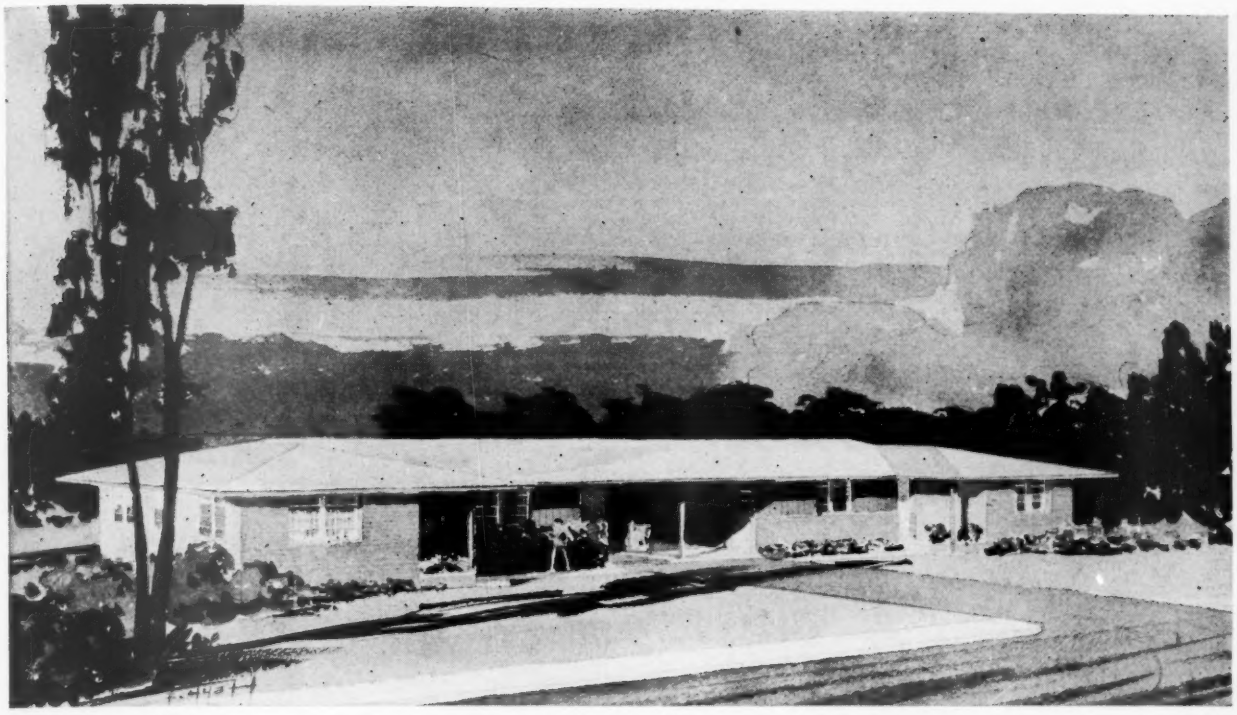
Wherry housing, located at many Air Force installations, is civilian owned. Air Force personnel rent them at rates which may be lower or higher than their quarters allowance.

This type of family housing came into being because housing needs following World War II exceeded appropriations for military construction. Civilian sponsors put up roughly ten percent of the funds needed for building the projects, and large investment firms supplied the additional capital in exchange for long-term mortgages insured by the Federal Housing Administration.

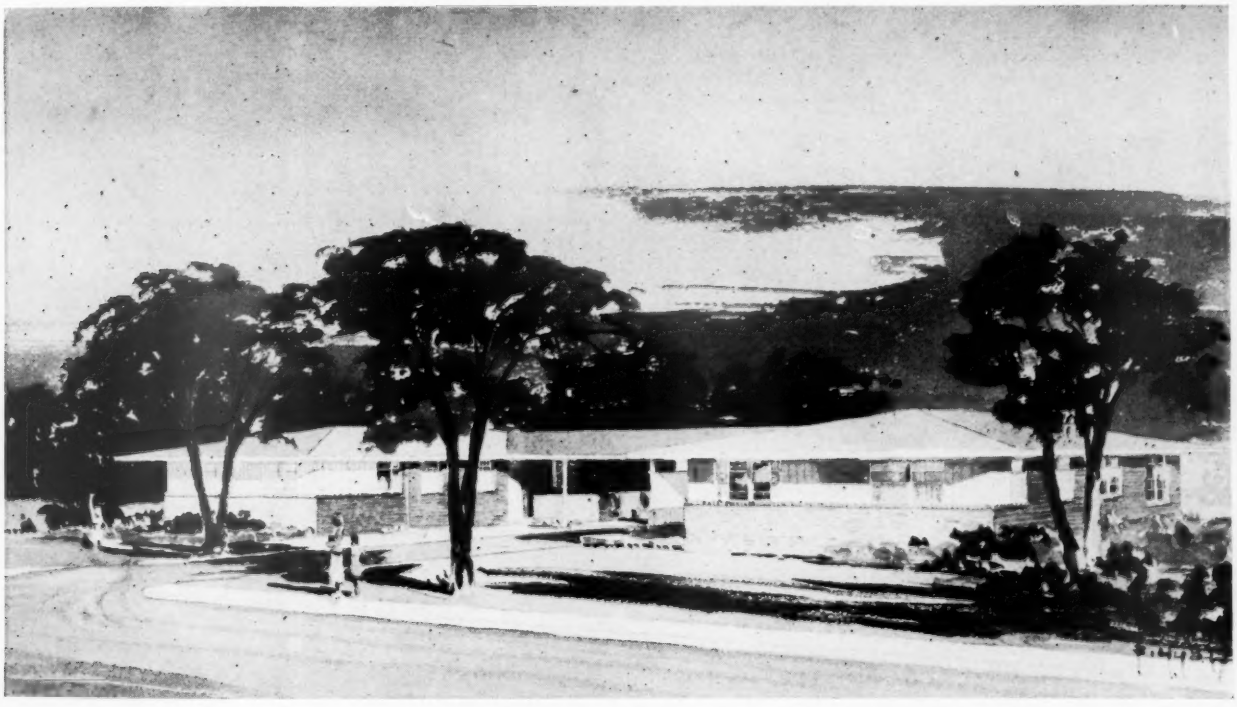
At present, 38,000 Air Force families are residing in Wherry quarters. No additional Wherry houses will be built and the existing projects are being acquired by the Air Force as rapidly as possible, to be placed on an assignment basis as public quarters. They will be remodeled to meet Air Force standards wherever possible. Those Wherry houses which cannot be economically remodeled may, in some cases, be operated on a direct-rental basis at rates comparable to other local rents.

Rental guarantee housing is now in use by about 3,200 Air Force families overseas. They are owned by residents of the country in which they are located and built for Air Force use in return for a guarantee of 95 percent of the possible rents over a 5-, 7-, or 10-year period. The Air Force member receives his BAQ and pays rent directly to the owner. Present plans provide for construction of 1,800 additional houses on this basis.

The various types of family housing now being obtained should result in higher Air Force combat efficiency by increasing personnel retention rates.



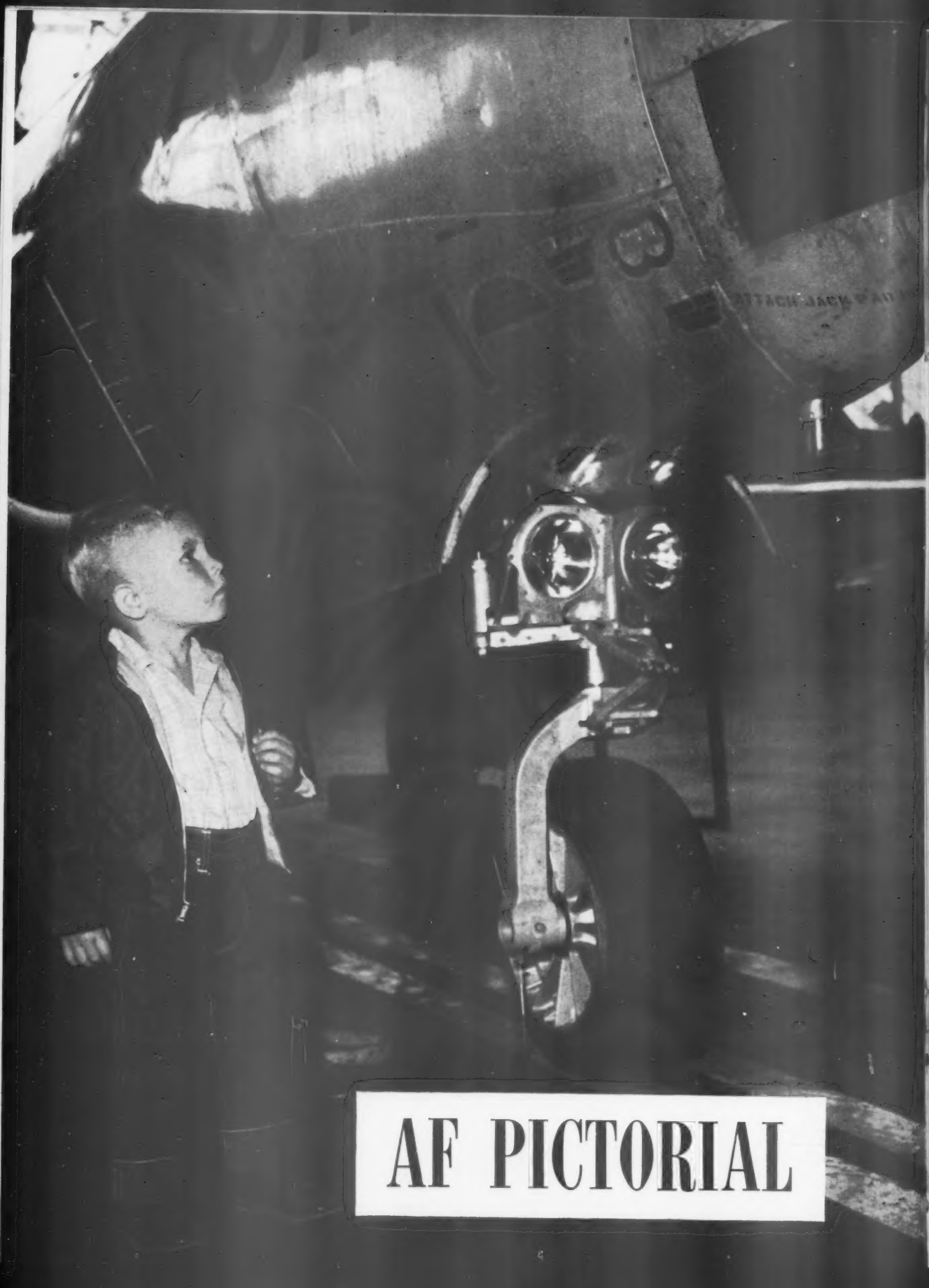
Two-bedroom NCO duplex (top) and four-bedroom duplex for lieutenants and captains (bottom) are among the designs approved for Clinton-Sherman AFB, Foss, Okla.



The family housing division at Air Force headquarters, points out that:

"The housing program has been subject to many adverse factors since the National Housing Act was amended in 1955 to permit the Air Force to provide a respectable number of homes for its people.

"It is unfortunate that understanding of the problems could not have been more widespread during the development period. Neverthless, we are now in the construction phase, and many Air Force families should soon be free of housing worries."



AF PICTORIAL

←

LOOKING AHEAD—Little Greg Raggio, 2½-year-old son of S/Sgt. and Mrs. Alvin H. Raggio, looks with wonder and awe at a Lockheed T-33 *Shooting Star* trainer during the 83d Fighter-Interceptor Sq., Hamilton AFB, Calif., "Family Day" open house. Perhaps he is imagining the T-bird winging along with himself at the controls. His father is a crew chief with the squadron. The 83d periodically holds open house to acquaint families with the activities of the husbands and fathers in the squadron.

PHOTO BY T/SGT. MERLE MYER

→

BIG BLOWOUT at Manhattan Beach Air Force Station, N.Y., honors USAF's 10th anniversary as an independent service. From left: A/2C Ronny Dumbrigue, A/2C Kathleen Franklin, 1st Lt. Sarah L. Pratt, A/1C Marge Pitale, A/2C Rose Cerdasky, and A/1C Ethel Fogus.

APPROACHING March AFB, Calif., a Boeing B-52 *Stratofortress* is directed to a safe landing by brilliant light given off by new Sylvania electronic-flash approach-lighting system recently installed on an experimental basis. Thirty million-beam peak intensity of flash is designed to penetrate mist, fog, rain, or snow.

TRACKING AND RADIO GUIDANCE of long-range missiles requires precise knowledge of the refractive effects of the atmosphere. Using the rising sun as a substitute for a missile, ARDC's Air Force Cambridge Research Center (Mass.) scientists, through means of multiple-exposure photographs, are measuring atmospheric effects under varied conditions. Findings will be incorporated into antimissile-device tracking systems—assuring maximum accuracy should such devices ever be needed. Photo shows sun at 5-minute intervals.

CORDINER REPORT

On March 26, this year, the Committee on Professional and Technical Compensation released a report which immediately received nationwide publicity and discussion. Popularly known as the Cordiner Report, the proposals set forth by the Committee, headed by Mr. Ralph J. Cordiner, called for sweeping changes in the pay structure and personnel management practices of the Armed Forces of the United States. Since the release of the report, its various proposals have been the subject of many public discussions and, as a result, some of the more important proposals have been misinterpreted, while other recommendations—significant to members of the Armed Forces but not to the general public—are relatively unknown.

The facts on each proposal are presented here so that Air Force personnel will understand exactly what the Cordiner Report contains.

The Modernized Pay System

The pay proposal contains four main features. The purpose of the new pay system is to pay people on the basis of their ability and relative worth. The proposed system is based upon the accepted methods of American industry and, while not trying to set military pay rates on a par with industry, it does strive for realism both in rates and system.

Enlisted Proposals

I. *Addition of pay grades E-8 and E-9.* The two additional grades would "spread out" the master sergeant rank, providing incentive raises up to the full 30 years of service. Pay raises would be given only to top graders to prevent upgrading all the way down the line. When a man reaches the grade of master sergeant (average time about 12½ years), he has nowhere to go, and thus loses incentive. Pay grades E-8 and E-9 are proposed to provide a continuing incentive.

II. *The step-in-grade system.* To eliminate "pay-inversion" — where an individual with several years of service can make more money than his supervisor—the Cordiner Committee recommends the step-in-grade system. Every man, regardless of career field, is eligible for in-step raises in accordance with Table 1. As the table indicates, the plan includes a fixed entry pay for each grade, regardless of longevity; a significant pay difference between grades; pay increases, without promotion, to reward outstanding workers; and finally, when promotion is awarded, a significant enough pay increase to provide incentive for promotion. (Note that the lowest pay in any grade is higher than the highest pay of the next lower grade.) In-grade increases would be controlled initially from the standpoint of time in grade and eventually on the basis of demonstrated proficiency.

III. *Proficiency pay.* This feature has been widely misinterpreted. Its principle is simple: reward a skilled man for developing his skills and using them where they are most needed. As the Cordiner Report explains proficiency pay, it is additional monetary reward without rank increases ". . . in recognition of the special contribution of certain enlisted personnel; such contribution may take the form of a skill qualification of critical importance to a service, or a demonstration of outstanding effectiveness in whatever occupation assigned." At the present time, however, personnel in occupations which are critical because of poor retention and high training investment would be most eligible for proficiency pay. The key phrase to remember is, "in whatever occupation assigned."

This is the way proficiency pay works. Those men selected must be proficient in the eligible occupations. They can be advanced to receive pay and allowances—including step-in-grade advances—up to two grades above their rank. They move up one grade at a time, with each grade advancement being separately earned.

About 15 percent of the total enlisted strength would be eligible for this pay. Persons in pay grades E-4 through E-8 who are in their second or subsequent enlistment would be eligible. Proficiency pay is an active-duty incentive and would not be paid to members of Reserve components unless they were on extended

Table I

PROPOSED BASIC PAY—ENLISTED

GRADE	BASIC ENTRY PAY	IN-GRADE PAY STEPS			
		OVER 2 YEARS	OVER 4 YEARS	OVER 6 YEARS	OVER 8 YEARS
E-9	$400.00	$410.00	$420.00	$430.00	$440.00
E-8	350.00	360.00	370.00	380.00	
E-7	300.00	310.00	320.00	330.00	
E-6	250.00	260.00	270.00	280.00	
E-5	210.00	220.00	230.00		
E-4	140.40	180.00			
E-3	99.37	117.00			
E-2	85.80				
E-1	78.00				

ARMY

The Cordiner Committee learned by traveling.

or continuous active duty. For retired personnel, there will be no proficiency advances. However, those who retired after the plan began would have retired pay computed on the basis of highest pay grade satisfactorily held, whether the grade was obtained on a proficiency basis or through normal promotion.

In a nutshell, the Committee believes that proficiency pay will keep skilled people in the service and in critical job areas, stimulate more proficient work in all eligible occupations (both for people getting the pay and those who hope to get it), reward outstanding individuals without making the services rank heavy, make retraining into technical occupations more appealing, and finally, create a military organization that appeals to people who want to work for an outfit that pays off on ability.

IV. *Realignment of enlisted pay scale.* The proposed pay scale is derived from the previously discussed features of the modernized pay system and is presented in Table 1.

Enlisted Personnel Management

The features of the management plan are designed to reap the full harvest of benefits that will evolve from the modernized pay system. In other words, the services must balance the number of people in various skills. There must be enough cooks, and not too many bakers. Today, *fewer* technicians are reenlisting and *more* nonskilled people are reenlisting. Thus, the services have a shortage in skills and an overage in nonskills. Five features of the enlisted personnel management plan are designed to correct and control this imbalance.

I. *Initial screening process.* A new enlistee, under this plan, would be placed in a probationary status. By the end of his first hitch, or even sooner, he must measure up to standard or face training in occupations where skills are less expensive to produce and easier to perform. Normally, he would face three alternatives: (1) training in technical skills; (2) training in nontechnical skills; or (3) elimination from the service.

II. *Retraining controls.* Here the services correct their inherent imbalances through reclassification, reassignment, and retraining. The services, as is known, have been pursuing such a program for some time. The Air Force has also followed the Committee's recommendations on a release system for "ineffectives."

III. *Reenlistment controls.* This plan calls for screening re-ups at various points in an individual's career. Its aim is to correct the imbalance caused by high reenlistment of least-wanted skills and low reenlistment of needed skills. The Committee urged that extreme judgment be exercised in this respect so that the security aspect of a military career would not be jeopardized.

IV. *Higher education and training for high mental level personnel.* College-qualified airmen would be identified early in their careers. For the career minded, officer training or in-service education should be provided. Noncareer-minded airmen should be given early outs to attend college.

V. *Obligated service for specialized training.* After an individual takes a long training course, he normally works on the job for some time before he gains standard proficiency. It is necessary that the services get a certain return on their investment by keeping the man for a period of productive service. The Committee believes that the time a man is retained after training will increase with the full implementation of the Cordiner proposals.

The Officer Personnel Problem

Essentially, the problem of keeping officers in the service is the same as that of enlisted men. Therefore, on this basis, the Committee made five proposals for the establishment of a new system of officer compensation.

I. *Conversion to the step-in-grade system.* The same considerations which resulted in converting the enlisted pay structure to the step-in-grade system also apply to the officer pay structure. With these factors in mind, the Committee established the step-in-grade system shown in Table 2.

II. *Realignment of the officer pay scale.* The pay scale was realigned in accordance with the step-in-grade system. The realignment was necessary to provide a systematic and consistent progression within and between grades.

From pay grade O-5 up, a special active-duty supplement pay is included. This serves the purpose of increasing pay in line with responsibility and comparable jobs in industry, without increasing the retirement pay. This active-duty pay supplement accrues only during active duty of 30 days or more and is excluded when computing retired pay.

III. *Recognition of 3- and 4-star ranks as separate pay grades.* In recommending establishment of new pay grades (O-9 and O-10) for the ranks lieutenant general and general (vice admiral and admiral) the Committee recognized that from 2-star rank

up, no increases in pay result from promotion, although 3- and 4-star officers may assume positions of such responsibility as a member or Chairman of the Joint Chiefs of Staff, or Chief of Staff of a service. (There are some monetary additives authorized by law, but they are not considered "promotion pay" increases.) Furthermore, having held 3- or 4-star rank, with the resulting positions of responsibility, the general officer is retired at the rate of pay of a 2-star rank.

IV. *Incentive for noncareer Reserve officers.* Term retention contracts would be signed with reservists for varying periods, depending upon service needs. When the contracted tour of duty is completed, payments would be made to Reserve officers on the following basis:

(1) Where obligated service is completed after the enactment of the plan, officers who extend under contract would get two months' base pay (at time of release) for each year of total active commissioned service under contract. Those serving less than six years would be paid at the same rates but only for the period served under contract.

(2) For the Reserve officers on active duty beyond obligated service at the time of the plan's enactment, payment would be made for active duty served under contract, and where six or more years have been served under contract, an additional payment for a maximum of three years' continuous "prior-contract" service.

The report states that retention payments would not be given to any Reserve officer who is released for unsatisfactory service, permitted to resign for his own convenience, qualified for retirement at time of release, or who is appointed as a Regular officer.

V. *Exceptions to normal officer career pattern.* Considered in this category are medical officers, nurses, warrant officers, and limited-duty officers of the Navy and Marine Corps.

The Committee did not alter the basic incentive pay of medical, dental, and veterinary officers which was established in 1955. The Committee was opposed to any other overall differential pay for special skills in officer areas. The pay of medical officers was realigned with the in-grade pay system for all officers, and the special incentive was adjusted accordingly. This is included in Table 3. In addition, nurses and medical specialists would receive three additional steps-in-grade. These additional steps compensate for the limited promotional opportunities in these fields. The steps, added to the regular steps-in-grade for grade O-3, are: Step VII, (over 8 years) $530; Step VIII, (over 10 years) $562; and Step IX, (over 12 years) $596.

The basic pay of the warrant officer structure was realigned to provide logical progression from enlisted pay grade E-7. The new scale is included at the bottom of Table 2.

Officer Personnel Management

For officers, most of the personnel management actions are designed to

Table 2
PROPOSED OFFICER PAY STRUCTURE
(Monthly Rates of Pay)

GRADE	GRADE ENTRY RATE			IN-GRADE PAY STEPS (Including Active-Duty Supplement)					
	BASIC PAY RATE	ACTIVE-DUTY PAY SUPPLEMENTAL	TOTAL ENTRY RATE	STEP I OVER 1 YEAR	STEP II OVER 2 YEARS	STEP III OVER 3 YEARS	STEP IV OVER 4 YEARS	STEP V OVER 5 YEARS	STEP VI OVER 6 YEARS
O–10 Gen/Adm	$1,700	$300	$2,000						
O–9 L Gen/V Adm	1,500	250	1,750						
O–8 M Gen/R Adm	1,300	200	1,500						
O–7 B Gen/R Adm	1,100	150	1,250						
O–6 Col/Capt	850	100	950		$1,005		$1,065		
O–5 Lt Col/Cmdr	660	50	710		750		795		$840
O–4 Maj/Lt Cmdr	530		530		560		595		630
O–3 Capt/Lt	420		420	$432	445	$458	471	$485	500
O–2 1st Lt/Lt (jg)	335		335	345	355	365	375		
O–1 2nd Lt/Ens	222		222	244	268				
W–4	530		530		560		595		
W–3	462		462		484		506		
W–2	396		396		418		440		
W–1	350		350		373				

Note: "ACTIVE-DUTY PAY SUPPLEMENT" applicable only to officers on extended active duty exceeding 30 days, and is not included in computation of retirement pay.

remove less capable officers, be more selective in promotions, and inspire competence, integrity, and personal responsibility, in general, to tighten up all administrative and legislative controls to eliminate substandard people. Again, if this is done simultaneously with implementation of compensation and incentives, higher selectivity will result.

General Problems

There are five other problems which were recognized by the Committee, and they combine elements of personnel management and compensation as applied to both officer and enlisted personnel.

I. *Housing and quarters allowance.* There are not enough on-base quarters to go around and quarters allowance is inadequate for what personnel must pay for off-base rentals. Since 1942, military personnel have received quarters allowance increases of 14 percent. The nationwide price index for rent increased 48.5 percent. And the combined index for applicable shelter items, including rent and utilities, has risen 46.6 percent.

To correct this, the Committee recommends adjustment of the present rates, and then adoption of a system whereby the quarters allowance is tied to the nationwide index of housing costs. The allowance could then slide up or down, automatically, with the nationwide trend.

II. *Incentive pay* for remote and isolated duty is the second of the general problem areas. Here the Committee recommends that the Department of Defense seek new legislation to authorize incentive pay for people serving in remote and isolated areas.

III. *Military leave.* Essentially, the Committee urges all personnel to take authorized leave, primarily from the standpoint of individual health and welfare. The Committee recommends no changes to the Armed Forces Leave Act of 1946, as amended.

IV. The fourth item, *national economy and the military pay index,* covers the Committee's recommendation that the Department of Labor develop a "Military Pay Index," relating military professions to civilian counterparts, where possible. This would provide the means for periodic review of the military pay structure and would facilitate future adjustments.

V. The final proposal concerns the *application of the proposed basic pay to retired pay.* At some lengths, the Committee reviewed the fundamental concepts of military retirement, recognizing its qualifications and its position as a career incentive. The Committee's conclusions then are based upon historic facts, and the need to keep faith with those now retired, or those who look forward to retirement at the end of an active career.

"It is, therefore, the Committee's recommendation that compensation for personnel presently on the retired rolls be converted to the step-in-grade system. The proper step within the retired grade should be determined on the same basis as the officer currently in a Reserve or active-duty status."

As in the case of all active-duty military personnel, there is a "saved pay" provision which keeps any retired member from receiving less money than he is at the time of enactment.

This then, is the Cordiner Report. At the present time, the "package" is being considered by Congress. It is a new system attacking an old problem. Its advocates feel that it will remove all the archaic aspects of the military and replace them with a compensation and management system based on the principles of modern industry.

Table 3

PROPOSED SPECIAL PAY RATES FOR MEDICAL AND DENTAL OFFICERS

Less than 2 Years as a Medical or Dental Officer

GRADE	BASE ENTRY RATE	SPECIAL PAY	TOTAL	MAXIMUM PAY HIGHEST STEP
Major	$530	$100	$630	...
Captain	420	100	520	532
1st Lieutenant	335	100	435	445*

* 1st Lieutenant automatically promoted to Captain at end of first year of active duty.

On Completion of 2 Years as a Medical or Dental Officer

Major	$530	$200	$730	$830
Captain	420	200	620	700
1st Lieutenant	355	200	555	575

In Grades of Lt. Colonel and Above

Major General	$1,500	$100	$1,600	...
Brig. General	1250	100	1350	...
Colonel	950	100	1050	1165
Lt. Colonel	710	150	860	990

SPECIAL PAY FOR VETERINARIANS

GRADE	MONTHLY SPECIAL PAY
Colonel and above	...
Lt. Colonel	$ 50
Major	100
Captain	100
1st Lieutenant	100
2nd Lieutenant	100

S/Sgts. Fred T. Whiteside (left) and David L. Reynolds built the first "base operations" building on Fletcher Ice Island in December 1952. The island was named for Lt. Col. Joe Fletcher (inset) who landed the first group of airmen and scientists there.

THE AIR FORCE ROLE IN

During the next year and a half members of the Armed Forces will be participating with scientists on research projects designed to improve our knowledge of the universe. This research can lead to faster, higher, safer flight and the exploration of outer space.

July 1 marked the beginning of an 18-month period called International Geophysical Year 1957-58. Scientists of more than 60 nations will carry out coordinated exploration of 12 major branches of earth science during the IGY. They hope to learn more about our environment, from the core of the earth and the ocean depths to the outermost fringes of our atmosphere. The Air Force has been assigned important supporting roles.

The idea of world scientific cooperation is not new. International Polar Years 1882-83 and 1932-33 resulted in establishment of Arctic bases which added to our knowledge of Far North weather, magnetism, long-range communications, and the Northern Lights. Rapid technological advances in recent years and knowledge that sun spot activity would become intense during the period, led to the selection of July 1, 1957 through December 31, 1958 for a third international assault on earth's secrets.

Answers to many questions will be sought during the "year." Are the continents shifting? Will melting glacial ice at the North Pole cause a rise in ocean levels and warmer climates throughout the Northern Hemisphere? What effect do polar air masses have on the world's weather? What circumstances combine to cause violent floods and blizzards that seemingly appear out of nowhere?

The answers to these and other questions will have a profound effect on our future, as individuals and as members of the Air Force. Many fields of IGY study will shape, directly or indirectly, the course of aviation progress. The Air Force has participated in much of the preparatory work accomplished in the last three years.

One phase of the IGY program began in December 1954 with Operation Deepfreeze I, an Antarctic research project.

In 1956-57, Operation Deepfreeze II was accomplished. Tactical Air Command's 18th Air Force provided airlift support for the establishment of U. S. Antarctic stations, including the first operating base at the South Pole.

When some of the cargo chutes malfunctioned during the South Pole operation, an Air Force combat control and airdrop specialist, T/Sgt. Richard Patten, voluntarily bailed out of a C-124 *Globemaster* in 40-below-zero weather to find out why. It was the first time in history that a parachute jump had been made over one of the poles. His bailout resulted in correction of the cargo chute malfunctions, and he later received the Distinguished Flying Cross for his achievement.

Eighteenth Air Force crews logged more than 2,500 Antarctic flying hours in support of Operation Deepfreeze II. Rear Adm. George J. Dufek, task force commander, said the Air Force did everything it was scheduled to do and about 60 percent more.

"I consider the South Pole airdrop operation the most unique, difficult, and hazardous in peacetime history. The establishment of the scientific station at the South Pole was undoubtedly the greatest single achievement of Operation Deepfreeze," Admiral Dufek stated.

At the opposite end of the world Air Force men have established an IGY station on Fletcher Ice Island

INTERNATIONAL GEOPHYSICAL YEAR

(T-3) in the Arctic Basin and another drifting station on the pack ice north of Alaska. Members of the Air Force and IGY scientists will man these stations throughout the 18-month period. Coastal stations have been established at Barter Island and Barrow, Alaska, and Thule Air Base, Greenland, as observation sites and staging areas for the drifting stations.

There are several good reasons for worldwide interest in the polar regions. Much of our weather is born in the Arctic and the Antarctic, and these are the areas of magnetic storms which frequently disrupt radio communications around the world. Variations in magnetic forces in these regions affect air navigation and the accuracy of latitude and longitude determinations. Scientists would like to know whether the Antarctic is a continent or a group of islands buried under a huge mass of ice, and whether or not the Arctic ice cap, which once extended into the United States, will disappear.

U. S. scientists will launch more than 200 upper-atmosphere research rockets during the scientific year, from many sites, including Fort Churchill, Manitoba, and Holloman Air Force Base and White Sands, New Mexico. The Air Force Cambridge Research Center has been given responsibility for 31 of the launchings. Rocket research will answer many questions about upper wind fields, including the high-altitude jet stream which provides 100- to 200-mph west-to-east tail winds for our aircraft, and will add to our present knowledge of atmospheric pressure, density, and composition.

Rocket research, however, has its limitations. Often months of preparation are required for flights of five minutes duration. The newest things under the sun during the IGY will be several artificial earth satellites which will circle the earth for days, weeks, or possibly months.

Parachutes begin to blossom like mushrooms in the sky as a D-2 Caterpillar falls toward the South Pole. An hour later the "Cat" was in operation.

T/Sgt. Richard Patten, an Air Force combat control and airdrop specialist, was the first man in history to parachute to the South Pole. The temperature was 40 degrees below zero.

Aviation's frontier is straight up. Tomorrow's planes will fly faster and climb higher than anything we have today. Everyone connected with aviation, military and civil, will benefit from IGY research.

New knowledge of the forces which shape weather may lead to more accurate long-range forecasts. Study of the ionosphere, an electrified portion of atmosphere which mirrors radio waves back to earth instead of permitting them to escape into space, may result in further improvements in radio communications.

We can predict many short-term benefits which may accrue as a result of our IGY participation. The long-range dividends of any new scientific knowledge are endless. When Benjamin Franklin plucked electricity from the clouds he had no way of knowing that eventually it would illuminate the world. The International Geophysical Year may bring about discoveries of equally far-reaching importance.

Launching facilities for manmade moons have been established at Patrick Air Force Base, Fla. Air Force men will participate in optical and radio tracking operations during each flight. The satellites will radio information to ground stations regarding the amount of magnetism, meteoric particles, and ultraviolet, cosmic, and X-radiation encountered. By plotting their paths around the earth, scientists hope to learn more about earth's gravitation and magnetism. This knowledge would permit more accurate determination of latitudes and longitudes, resulting in improved navigation charts.

Globemaster takes on cargo at McMurdo Sound prior to first South Pole mission. It carried 10,000 pounds of cargo and an automatic weather station. Forty-three crew members and observers participated in the historic flight.

AIRMEN IN THE NEWS

RETRAINED NONCOM

A recent limited survey of noncoms who have retrained from surplus career fields indicates that the program is producing encouraging results both from the Air Force and individual points of view.

Not only are shortages in highly technical fields being filled, but individuals are discovering their new specialties challenging and highly interesting. In many cases they are also finding themselves eligible for promotion for the first time in many months. The USAF, in turn, is profiting by the reduction of surplus personnel in many less technical career fields.

A case in point is that of T/Sgt. James C. Baughman, a 10-year veteran, and the first known volunteer trainee under the new program. A surplus 7-level man in the supply field, Baughman made his decision after long hours of personal debate.

His determination to succeed once he had arrived at a conclusion pulled him through the basic jet course at Amarillo AFB, Tex., as an outstanding member of his class. He followed this success with one of equal magnitude in mastering the shorter specialist course.

Today, T/Sgt. Baughman is an F-86D crew chief at Tyndall AFB, Fla. His advice to others in the same position as he formerly found himself—"Don't just sit there!"

★ ★ ★

PROSPECTS UNLIMITED

A simple electronic device, intended as an instructional aid in radar maintenance training, may prove to have many additional applications once it has been thoroughly explored.

Some months ago, Lt. Herbert M. Rosenthal, McConnell AFB, Kans., began experimenting with a device for presenting a radar picture on radar malfunction trainers. Since the antennae for these trainers are inside the building housing them, no picture was available except for limited targets immediately outside the windows.

The Flying Spot Video Generator and Malfunction Simulator produces a picture from film for projection on the scope of the trainers.

Adaptation of the invention for use in the radar maintenance training course aroused the interest of personnel at Wright Air Development Center, Wright-Patterson AFB, Ohio. Officials of that center report that the method is adaptable in its present form to various types of radar bombing navigational systems as an extremely inexpensive improvement. With certain modifications, it may prove to have a great many more uses in other branches of the electronics field.

Rosenthal's invention will be forwarded to the center for further experimentation and development in the near future. He, in turn, will soon assume new duties—instructor at the United States Air Force Academy.

★ ★ ★

STILL MOVING UP

One of the nation's top World War II aerial aces, Lt. Col. Fred J. Christensen, Jr., Wayland, Mass., has been named commander of the Massachusetts Air National Guard's 102d Fighter Group.

He scored 22 kills in the skies over Europe, but the highlight of his combat career came in 1944 when he destroyed six German aircraft in two minutes.

Christensen enlisted in 1942, chose to compete for flying training, and flew 107 combat missions in the ETO after winning his wings and commission.

★ ★ ★

DOWN AND LOCKED→

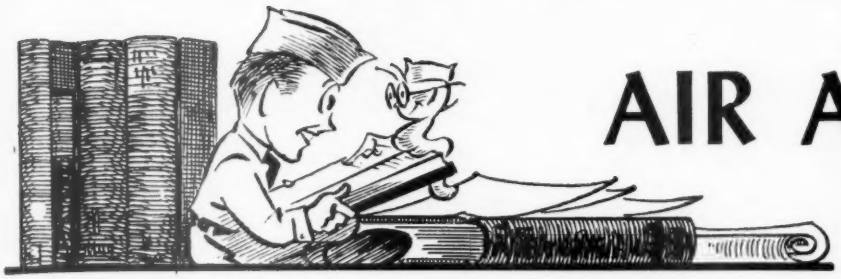
A Lockheed C-124 transport entered the pattern at Wake Island recently following an uneventful flight from Guam. The pilot, preparing to land, lowered the gear and retarded throttles. The landing gear warning horn blasted in protest, signalling that the wheels were not locked in a down position. A check located the trouble in a malfunctioning hydraulic system—trouble which could not be corrected in flight.

This was the emergency which a transport crew recently faced in the Pacific. The situation obviously called for a thorough knowledge of emergency procedures and ingenuity if the giant aircraft was to be spared a belly landing.

And know-how and ingenuity were exactly what T/Sgt. James D. Laird exercised in assuring that safe landing. Laird tore a board from a crate in the cargo compartment and nailed the main-gear locking pins to it. With his body secured through the use of nylon tie-down straps, Laird inched his way through the wing crawl-way to a position over the wheel well.

Leaning down into the well, fighting the slipstream, and buffeted against the sides of the nacelle, Laird finally succeeded in inserting the pins. With skin rubbed raw on his arms and legs he was pulled to safety. He then repeated his heroic feat on the other main gear.

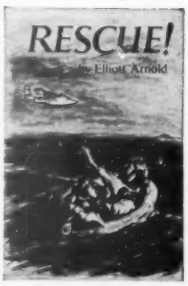
The plane landed safely and Laird has been awarded the Air Medal for "devotion to duty in disregard for his personal safety."



AIR AGE LIBRARY

by Capt. James F. Sunderman

One of America's noted authors, Elliott Arnold, is a former USAF officer and author of numerous books (*Blood Brother, The Commandos,* and *Time for the Gringo*) and various movies (*Deep in My Heart* and *Broken Arrow*) who traveled throughout Air Rescue Service worldwide to gather material for ***Rescue*** (Duell, Sloan, and Pearce, $5.00).



Official ARS operations records led Arnold to 33 dramatic, heart-warming stories of rescue from disaster of civilians of all races, creeds, colors, and political ideologies. It took nine months of sleuthing through the remote corners of the globe to track down and interview individuals for the personal stories which make up *Rescue*. Included is a yarn about the humanitarian rescue and return to Communist China of a group of Chinese fishermen who were victims of a storm on the high seas. At the time this act of friendship occurred Communist China was holding in dismal solitary confinement several Air Force crews captured in Korea and had refused their repatriation.

Into each account is blended an absorbing, colorful background setting in a style that has become a trademark of Arnold's writing. The book is an outstanding example of the peaceful employment of military airpower and a tribute to the American way of life and thought. It is an effective document with which to counter Communist propaganda about American foreign policy objectives.

★ ★ ★

Air Force: A Pictorial History of American Airpower, by Martin Caidin in cooperation with the USAF, (Rinehart, $10.00) is the first complete AF picture history to appear since the USAF became an independent service. Its publication appropriately coincides with the Air Force's Golden Anniversary Year.

Air Force is a step-by-step photo documentary (400 action pictures, 60,000 words) that begins with establishment of the Signal Corps' Aeronautical Division on August 1, 1907.

Twenty-one attractively designed chapters trace military airpower from the Wright "B" flyer to the Century Series, the B-52, and the Snark. A theme, combining the man, airplane, and air concept, threads through the book in photolayout and narrative while the aircraft itself is treated in its historical development as an individual weapon.

The format captures the drama, vision, progress, and events that shape the history of military airpower. World War II vets will be especially interested in the emphasis and colorful treatment Caidin gives the last war. The combat operations and support activities of all theaters are dramatically portrayed. It is here that Caidin brings out fully the human element in air warfare.

The complete Air Force picture files, as well as those of industry and many private collections, have unearthed some rare photos. Many of them appear here for the first time.

Air Force is definitely a contribution to the literature of the USAF—an informative and interesting volume that airmen of all ranks will enjoy and want to own.

★ ★ ★

They Fought for the Sky, by Quentin Reynolds (Rhinehart, $3.95), is the story of the men, machines, and aerial combat which make up history's first war in the air.

Writing in his usual engrossing style, top-notch aviation writer and war reporter Reynolds chronicles the personal combat stories of all the great World War I aces—English, French, German, and American—men like Von Richthofen, Mannock, Bishop, Rickenbacker, Lufbery, Luke, Immelmann, Ronck, Boelcke, and others. He tells these stories within an easy-reading historical framework which spans the entire war from organization of the first Royal Flying Corps in 1914 to the Armistice in 1918.

Woven throughout the personal narratives of the first "knights of the air" is a record of technical development of military aircraft from the first synchronized machine guns to the bombing offensives of Saint-Mihiel and the Argonne; the operation of Allied and German flying units at the front; the Zeppelin raids on London; the Lafayette Escadrille; and exciting descriptions of aerial dogfights.

The history of World War I has always been a hobby with Reynolds. He knew many of the men about whom he writes, personally. The author claims this book has been a lifetime in preparation. Illustrated with a series of rare World War I photos, this historical adventure fills a long-standing gap in the literature of airpower.

★ ★ ★

Paper-Back Air Books

Roll Back The Sky by Lt. Col. Ward Taylor, USAF (Popular Library, 50¢)—a gripping novel about the men who flew the B-29 fire-bomb raids against Japan.

The Report On Unidentified Flying Objects by Edward J. Ruppelt (Ace, 35¢)—Air Technical Intelligence Officer analyzes flying saucer cases.

★ ★ ★

All books reviewed in this column should be available in the "Airman's Bookshelf" at your Base Exchange. If not, ask your BX officer about them. You can buy the hard-back books at about 25 percent discount from the regular list price quoted here. Paper-backs carry no discount.

A LITTLE LEARNING IS A DANGEROUS THING

The Air Force and a lot of airmen are doing something about it.

by M/Sgt. Edison T. Blair

Frank Biro is just one of 800 airmen who earned college degrees last year either on their own or under "Operation Bootstrap." He had finished nearly 20 years' service before he suddenly realized his education had been standing still since he finished high school.

When the A-bomb ushered in the atomic age near the end of WW II, M/Sgt. Frank J. Biro had 12 years' service, a wife, and a son. He wasn't tempted much by the GI bill and reenlisted about the time his daughter was born. Six years later, when he was working in the Inspector General's office at Elmendorf AFB, Alaska, he enrolled in an off-duty personnel management course that would help him pass the long subarctic evenings and help him in the office. Then he tried a public speaking class and got the evening school habit.

Before Frank rotated to Kirtland AFB, N.Mex., in 1952, he found out that the Air Force would pay 75 percent, or up to $7.50 per semester hour, on his tuition if he enrolled part time at a civilian college. All he had to do was buy his books (they're cheap, second hand), pay the few dollars tuition, and study a couple of nights a week to get a college education.

So he enrolled at the College of St. Joseph in Albuquerque with a full schedule of 15 credit hours, and started going to school three nights a week. Normally, it takes the average student four years to get a bachelor's degree. Biro did it in a little less than three—all of it after

PHOTO BY S/SGT. VICTOR J. KRANTZ

duty hours except for the last six months in 1955 when the Air Force put him on final-semester temporary duty, under "Bootstrap," to the college campus.

On TDY Frank drew his regular pay and attended day classes. He graduated with honors (cum laude) and two degrees—Bachelor of Arts in both philosophy and government. One of his first courses had been ancient philosophy, and he became so intrigued with characters like Plato and Aristotle that he took all his elective courses in philosophy. With his required number of courses in political science he had a double major. For maintaining a "B" average he was elected to the Pi Sigma Alpha political science honor society. He then started right back to night school, working on his master's degree at the University of New Mexico.

Last June he received a Master of Arts degree in government after a second tour of "Bootstrap" TDY. He has completed 24 years' service, but is not planning to retire before he completes his education—if then. Already he has earned 24 credit hours toward a Doctor of Philosophy degree. Meanwhile, he plans to write articles for the Air University Extension Course Institute.

To exercise his mind between de-

grees, Sergeant Biro has completed 11 ECI courses. When he rests, he builds model ships and trains or does copper tooling or needlepoint work. The hobbies have won him 15 ribbons at the New Mexico State Fair and a national award from Mechanics Illustrated. "It helps break the everyday routine," he points out.

Today, more than ever before in history, education is a *must*. Dr. Edward Teller, one of America's foremost atomic physicists, who helped build the A-bomb, warned last February that within ten years the world's best scientists would be found in Russia. The reason? "Because they take education much more seriously than we Americans do."

"An educated public is the finest investment we can make in the future growth of the Nation," President Eisenhower stated last year in congratulating the University of Maryland on its overseas educational program for the Armed Forces.

Some Started Early

A former Air Force staff sergeant who recently got his electrical engineering degree earned 24 hours of liberal arts credit in off-duty courses taught by the University of California while he was stationed at Tachikawa AB, Japan. He was "very impressed" with the quality of instruction. He said the teachers were just as good as those he studied under during his four years of college since then. The ex-sergeant tried to work part time during his first year of college but gave it up and borrowed money to finish. Now he's paying it back. The $110 a month he received under the Korean veterans' bill took care of his books, tuition, and laboratory fees, but that's about all.

With the coming of peace after World War II, the requirement for combat fliers was reduced—before the cold war and "police actions" changed the picture again—so Lt. Donald Holben decided to get out of the Air Force and get an education on the GI bill.

Holben is now a civil service employee of the Aeronautical Chart and Information Center in Washington, D.C., and a captain in the Air Force Reserve. He graduated from George Washington University last June with the Bachelor of Arts degree he started out to earn on the GI bill nine years ago. Actually, he only went to school seven years because he was recalled to active duty during the Korean conflict. Holben worked days and went to school nights. His wife worked, too, the first couple of years they were married, but that was before their two children came along.

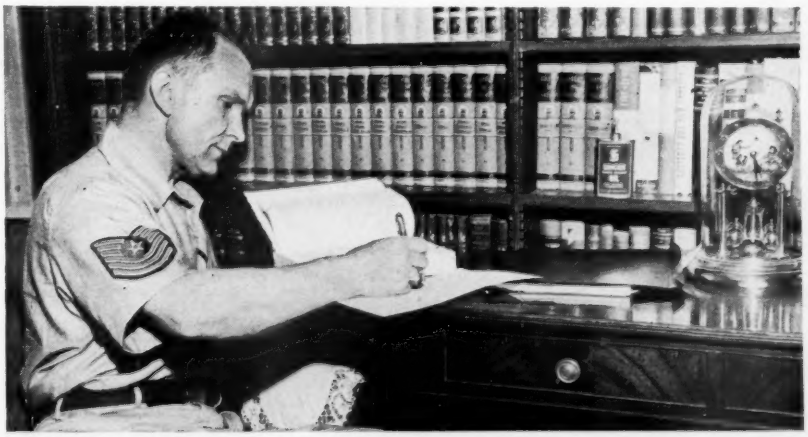
"It was a tight pull, but worth it," Holben says. "I knew some guys without families who were going to school on the bill full time. They laid bricks and worked on contruction jobs all summer to earn enough money to see them through the next school year. They lived pretty close to their belts."

Millions of ex-GIs have gone on to higher levels of learning under the GI bill as Don Holben did, and Sergeant Biro's educational accomplishments are spectacular, but not unique. Last year, for example, nearly 17,000 airmen on active duty earned diplomas, certificates, or degrees in their off-duty time.

"Anyone who feels he must wait until he gets out of the service to continue his education, or gripes about military obligations interfering with his higher education, is looking for excuses, not an education."

That's the considered opinion of T/Sgt. Oscar E. Millican, OJT Supervisor of the 3d Bomb Wing at Johnson AB, Japan. Millican has almost duplicated Sergeant Biro's education career. Like Biro, he is married, has two children, and studied nights until he qualified for "Bootstrap" final-semester TDY at the University of Syracuse in 1953. He was about to get his B.A. in social sciences when the dean discovered that Millican had left high school in the tenth grade and never received a diploma. The dean went into a flap and had Millican take a GED (General Education Development) test before graduating.

Sergeant Millican went back to Syracuse in 1955 on his second tour of "Bootstrap" final-semester TDY to get his master's degree. He took a leave (authorized under the "Bootstrap" program) and attended a summer session to prepare his paper on Far Eastern Affairs. The summer school tuition was paid by the Japan Society, a group of Japanese and American citizens whose aim is to strengthen cultural ties and understanding between the countries. The scholarship, one of ten awarded U.S. students, was the result of his excellent undergraduate scholastic record. He finished with 14 "As" and 6 "Bs." Only lack of enough undergraduate residence credits kept him from being eligible for Phi Beta



Along with his education, Sergeant Biro has accumulated a sizeable library. He finds it a priceless investment when he studies at home like this.

Kappa, the highest scholastic honor society.

Oscar is now teaching American history at night to other off-duty students at Johnson AB and, when time permits, working on his doctorate through the University of Maryland's overseas program. A career guidance specialist, personnel technician, and now, education technician, he plans to become a teacher after retiring.

Sergeant Millican's comment on education while in the Air Force isn't just opinion, it's fact. There were nearly 95,000 airmen enrolled in off-duty classes last year at 317 colleges and 100 high schools offering courses to Air Force personnel. A total of 270,000 were enrolled in these schools, other off-duty classes such as on-base group study, and extension courses. Where it is required by an accredited school, most of the tuition is paid by the Air Force. Over 1,200 teachers were hired under contract last year to conduct on-base classes. All that is required of the individual is a sincere desire to learn, some of his beer money for books, and some of his movie or TV time for study.

"On the whole I have found through my experience that there is very little difference between the average student on the campus and the off-duty student," reports Dr. Whitney K. Bates of the University of Maryland. "There is a greater range, however. The best off-duty student is apt to be better than the best on-campus student, and the worst off-duty is likely to be a much poorer student than his campus counterpart."

The Place to Start

In his job as NCOIC of Kirtland's education services office, Sergeant Biro knows that the Air Force still hasn't realized its minimum goal of every airman with at least a high school diploma and every officer with a college degree. That's why he writes motivation pieces for the ECI program. He is constantly urging others to start off-duty classes.

Many airmen don't try to pass their GED tests for a high school diploma or college credits because they feel they don't have the educational background. They don't realize that they are eligible for "Bootstrap" aid where it's needed, just as Biro and Millican were. The program was set up to provide maximum service for the greatest number of Air Force personnel. If you need fifth grade arithmetic the education office will help you get it, or whatever else you might need, to move you up the educational ladder to the next level.

Take, for instance, the case of Sergeant Long. S/Sgt. J. T. Long dropped out of his first-year high school class in Fulton, Ky., back in 1946 to work in a lumberyard and a grocery store. After he enlisted in the Air Force six years later, he had to study every spare moment to finish automotive tech school. He realized then that he had made a mistake by not finishing high school. English and math courses through the U. S. Armed Forces Institute helped him pass the GED test and get his diploma in 1954.

Like so many others, Sergeant Long didn't stop there, and since then he has completed several other USAFI courses. More important, he has piled up 17 semester hours, with straight "A" grades, at Southeastern State College (Okla.) toward an industrial arts degree and expects to get it there on "Bootstrap."

Up at Eielson AFB, Alaska, another staff sergeant named Ureal C. Enfinger got his high school diploma through a GED test after studying ten months in night classes on base. In that short period Sergeant Enfinger made up for the six years of school he had missed. Enfinger had to quit school in the sixth grade to help support his family and joined the Air Force on his 17th birthday.

You don't necessarily have to be stationed in the ZI to advance your education. There are off-duty education facilities available to you no matter where you are stationed. Lt. Col. J. L. Hood, comptroller for the 824th Air Base Group at Carswell AFB, Tex., got his master of political science degree from the University of the Philippines in Manila. He earned it during off-duty study nearly 30 years after he got his bachelor's degree from Brown University. Five thousand other officers in the Air Force have earned their college degrees the same way.

It's important to bear in mind that USAFI courses aren't the only self-study courses available through the education office. A lot of the ECI courses help fulfill the required training for certain AFSCs. Finishing a course doesn't give you the AFSC, but it sure helps you pass the examination when it comes up. ECI rolls this spring showed that over 65,000 airmen and 13,000 officers on active duty were studying ECI courses. Another 23,000 officers and 6,000 airmen in the Reserve and Air National Guard were also enrolled.

After his off-duty class at Bolling AFB, D.C., Dr. Whitney K. Bates, University of Maryland history teacher, is bombarded with questions by eager students.

"Bootstrap" TDY (AFR 34-52)

Here are a few important points to remember. You can go to college on TDY with your regular pay and allowances for up to six months to complete the requirements for a bachelor's or graduate degree. You must be in the ZI or returning from overseas to be eligible unless there are colleges or universities in your geographical area that meet the accreditation requirements. Travel

must be performed at your own expense, you buy your own books, and pay tuition during the TDY. Enlisted men only may be authorized a basic subsistence allowance of $2.57 a day, payable a month in advance, and those without dependents are authorized a quarters allowance of $51.30 a month.

But only those who desire an Air Force career and whose records show that they have career potential, in terms of Air Force service that will justify the additional education, get final-semester TDY. Preference is given to those, regardless of grade, whose AF Forms 186 (Education Services Program Record) maintained by the education office, show they have earned substantial credits through the off-duty phase of "Bootstrap." Of course, their past performance of duty is also taken into consideration.

Airmen must have completed a year of active duty immediately before beginning the TDY and must have two years left in their current enlistment when they finish—even if they have to extend to qualify. Normally, the Air Force won't favorably consider any request from an airman for retirement or separation within two years after the TDY is completed.

Only Regular or Reserve officers on voluntary indefinite status can qualify for TDY under "Bootstrap." They, too, must have a year of active duty before starting and must serve an additional two years after completion. They must also fulfill any directed duty assignments. No more than 200 officers can be on "Bootstrap" final-semester TDY at one time.

Dividends

It is neither necessary nor smart to wait until you are ready to get out of the service to start working on an off-duty education. A/1C Otis D. Philen, stationed at Donaldson AFB, S.C., is 22 years old and had a high school education when he enlisted three years ago. He has completed 38 semester hours of college credit through off-duty study in the last two years. He also finished three

USAFI courses and off-duty study are all you need to finish your high school education. Sergeant Enfinger made up for what he missed this way.

USAFI courses, all aimed at a degree in mechanical engineering. Philen has been accepted for navigator training, where his education will be put to work helping him earn a commission.

"I know the Air Force is not an institution for higher learning," Airman Philen said recently, "but it has the finest educational program available—inservice or out."

Harold E. Batiste, Jr., a former airman first class and statistician in the base testing section at Lackland AFB, Tex., got his Bachelor of Science degree from Texas Southern University in 1956, two years after he joined the Air Force. The degree qualified him for a Reserve commission and he received his notice of a call to active duty as a second

Lt. Harold Batiste, Jr., earned a "Bootstrap" degree and qualified for his Reserve commission. He's now on active duty, and still studying.

lieutenant while going to night classes for his master's degree in education.

The first enlisted man approved for "Bootstrap" final-semester TDY was Cpl. Vincent E. Haugerud (before the days of airmen second class), stationed at Bolling AFB, D.C., in 1952. He went to Officer Candidate School after graduating from St. Cloud State College (Minn.) and is now a first lieutenant assigned in Washington, D.C.

The "royal path to learning" isn't always easy, though. A/2C Ronald L. Graham, who works the swing shift in communications at Eielson AFB, has his eye on a doctor's degree in theoretical physics and that's a rough road. But no rougher than the 30 miles of Richardson Highway between Eielson and Fairbanks where his wife and the University of Alaska campus are located. He spends about 65 hours a month bouncing over it in an Alaskan Overland Transportation Company bus between home, school, and his job on the base. Winter temperatures get down in the minus 50s along this route.

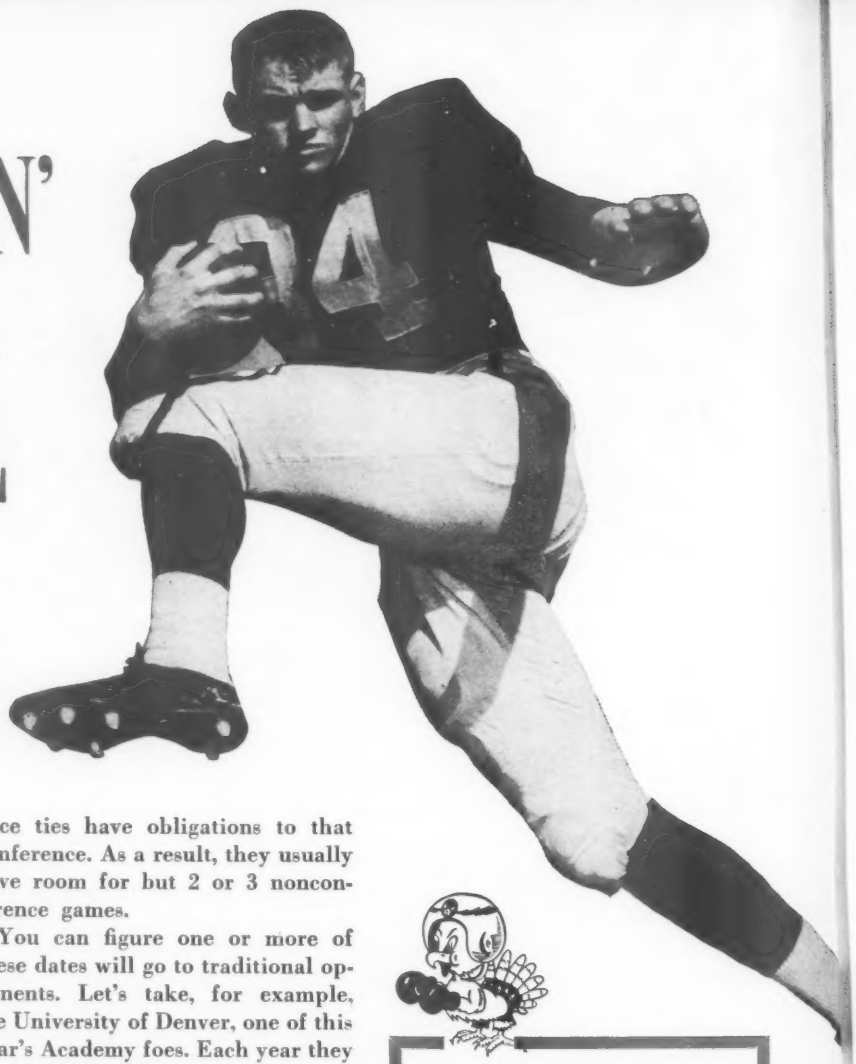
Airman Graham's commander has helped him arrange his shift work so he can go to school full time days, and he carried 21 semester hours of work last semester. So far his grades have all been marked "A." During his spare time, Graham completed a couple of advanced mathematics courses through USAFI —"with distinction." His experience and the experience of thousands of other airmen and officers bears out what General Twining has said about off-duty study:

"One of the best things about the Armed Forces today, is that it affords young men and women excellent opportunities to better themselves so that they can meet the needs of modern technology. The amount of education a person receives while in the Air Force is in direct relation to his desire to obtain it."

That's one ratio problem that doesn't require much higher mathematics to figure out.

FORECASTIN' FREDDY'S FOOTBALL FUTURE

by M/Sgt. Hal Bamford



Ernest Thayer expressed it best in his immortal "Casey at the Bat."

"But there is no joy in Mudville, great Casey has struck out."

It's a little early yet to say whether or not the Air Force Academy Falcons are going to strike out during the 1957 football campaign. As a matter of fact, they don't even go to bat until the last Saturday of this month, but it's not too early to say that there is little joy on the eastern slope of the Great Divide.

From out Denver way, Freddy the Falcon will stray some distance from the home aerie this fall for the first time, and frankly, if you are to believe Coach Buck Shaw, Freddy's prospects are far from bright.

In spite of the fact that gloom is a standard item in the equipment of the average college football coach, Shaw's reasoning holds water. Scheduling of college football games, especially for the independent squad which has no conference affiliation, is at best a complicated and far-reaching process. There are just so many Saturdays during a football season. Most colleges with conference ties have obligations to that conference. As a result, they usually have room for but 2 or 3 nonconference games.

You can figure one or more of these dates will go to traditional opponents. Let's take, for example, the University of Denver, one of this year's Academy foes. Each year they play seven games within the Skyline Conference. Additionally, Iowa State and San Jose State are reappearing from last year's list as outside-the-conference foes. The Falcons will replace Colorado College to round out the 1957 slate.

Considering this simple fact in scheduling, it becomes understandable that the Academy, when it first began operating, was forced to schedule well in advance to assure a representative group of opposing squads.

At that time, the plans called for 350 cadets in the initial class, 450 in the class entering in 1956, and 750 in succeeding years. Construction schedules at the permanent site and space problems at the Lowry campus dictated a change in these num-

1957 USAFA FOOTBALL SCHEDULE

Sep 28	Occidental College at Denver
Oct 5	Detroit University at Denver
Oct 11	George Washington University at Washington, D.C.
Oct 19	Open Date
Oct 26	University of Tulsa at Tulsa, Oklahoma
Nov 2	University of Wyoming at Laramie, Wyoming
Nov 9	University of Denver at Denver
Nov 16	University of Utah at Salt Lake City, Utah
Nov 23	University of New Mexico at Denver
Nov 30	Colorado State University* at Denver

*Prior to May 1, 1957 Colorado State was Colorado A&M.

bers. As a result, each of the first three classes has been comprised of 350 men. Academic losses have cut the first two classes approximately 20 percent, a washout figure that is actually below normal in comparison with that contemplated from past experiences of the Army and Navy Academies. Therefore, instead of having a Cadet Wing of more than 1,300 this fall, the student body will number considerably less than 1,000.

When the Academy eventually reaches full strength there will be nearly 2,500 cadets—but this does not solve the current manpower problem, and 1958 prospects aren't any brighter.

The class entering in 1958, the first scheduled for the full four years at the permanent site in Colorado Springs, is presently programmed for a strength of 450 men, with the first full class of 750 now pushed back till 1959.

The caliber of opposition has and will continue to improve since the first squad was fielded. The Falcons' game has also improved in direct proportion to the experience and maturity of the players available—but the amount of tested material available to Shaw is the major problem.

Originally, schedules were drawn up to assure a gradual increase in the strength of the opponents. Had all gone as planned, the Falcons might well have expected this season to be equal in success to that of last fall.

But like the best laid plans of mice and men, things went awry. The initial year was no great problem. This was a simple case of freshmen meeting freshmen. The Falcons split their 8-game schedule, 4 wins, 4 losses. The level of experience was approximately equal on each side.

Last year the record would indicate a marked improvement. Playing against full-scale college squads, the Falcons notched 6 wins in a 9-game set; lost a pair and tied one.

Hopes of Air Force personnel around the world soared. The general feeling among the men in blue not directly associated with the new school was that by 1959, when the Academy is first scheduled to meet Army, they should swamp their sister school. But a closer look at last year's record immediately raises a question and gives cause for tossing a blanket over the optimism that is rampant.

Eight of the nine 1956 opponents were "small" colleges. Only Brigham Young was classed as "major" by the National Collegiate Athletic Association.

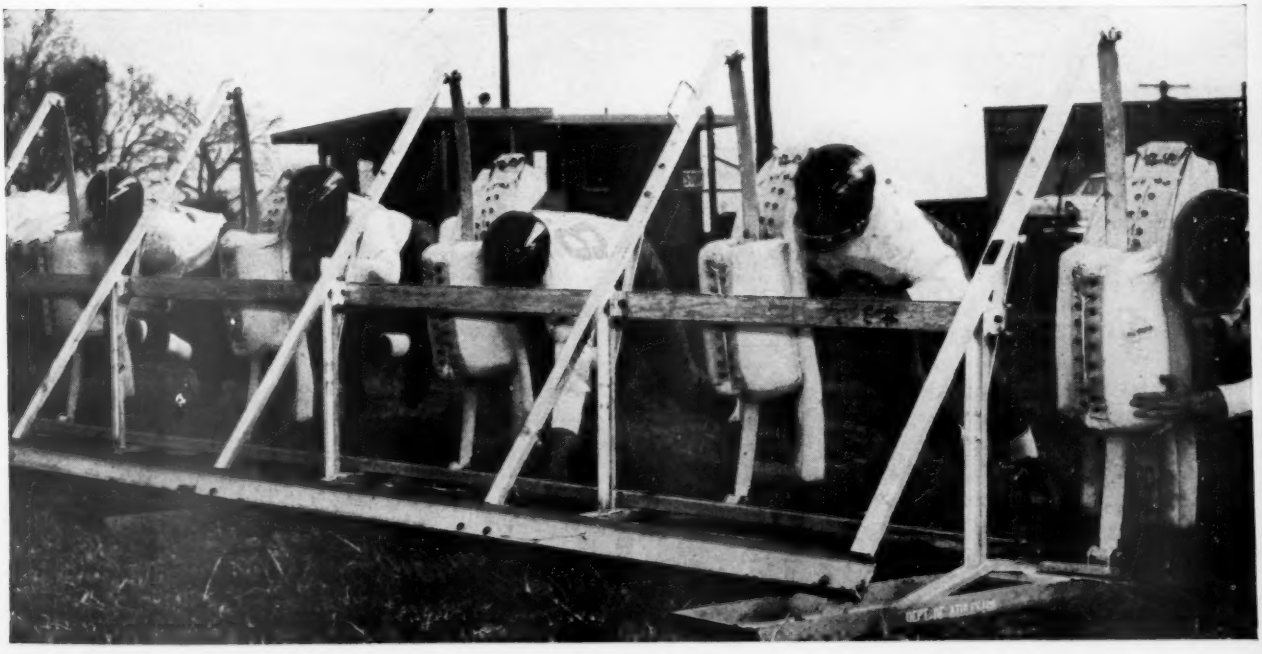
The term "small" college is not used in a derisive manner. To qualify as a "major" college gridiron team, half of the opposition must also qualify in the "major" category. Only BYU from the 1956 schedule met these qualifications. And what was the result of the BYU-USAFA game last fall? BYU-34, USAFA-21.

Notre Dame lost a lot of ball games by higher scores last year. Therefore, this score in itself is not a major catastrophe—not until you look at the overall BYU record for 1956. In 9 additional games, the Cougars won 1, lost 7 and tied 1.

However, this was against major opposition—the same general category as the 1957 Academy opponents. Additionally, there seems to be little doubt but what all nine Falcon foes rate several rungs higher up the power ladder than does BYU.

Comparative scores are the most

The blocking sled gets a shoving around from the Falcon line during spring football practice.



certain road to sudden death open to the sports writer, but on that basis, it must be assumed that the Air Force Academy will enter eight games this fall on the short end of the odds-maker's books.

True, the backbone of the squad which will suit up in the silver and blue will be a year older and a year wiser. Equally true, help may come in the class which entered in July. But these are all intangibles.

With a deep bow in the direction of Buck Shaw, the picture is not as bleak, in this writer's eyes, as painted. We were fortunate enough to attend a small segment of the Academy spring football practice which included a full-scale scrimmage. Shaw has done his job well both in physical and mental preparation.

We had an opportunity to talk to several of the players. Their outlook is neither optimistic nor pessimistic. They are not expecting to slaughter the opposition, nor do they expect to be slaughtered on any given Saturday. Instead, they have a healthy respect for the job with which they are faced.

Weather in the Inter-Mountain West last spring was not conducive to football practice. A series of snowstorms curtailed the length of the period and only 13 sessions were actually held.

Although the Academy cannot become a full-fledged member of the NCAA until after the first class has graduated in 1959, USAFA officials are anxious to stay within the spirit as well as the letter of the college athletic governing body's law. Under these restrictions, member schools are limited to 20 days' spring practice within a 36-day period.

In spite of the forced brevity of the practice, even Shaw found some reason for dispelling a portion of his earlier gloom. "Some of the second-year men, who improved greatly during the course of last season," he feels, "certainly indicated this spring that they will continue their progress. These players are going to have to continue to improve, because we're counting on them to carry most of the load this fall."

Buck Shaw, USAFA Coach, "This is the year of football decision for the Falcons."

As for the class which entered in July, Shaw opined, "that with the caliber of opposition we are going to meet this fall it will take a heck of a good newcomer to cut it in varsity competition because of the experience factor."

Shaw is no stranger to the game of football and his opinion must be respected. By the same criteria, as pointed out earlier, gloom and a crying towel are among the main pieces of equipment in the average coach's inventory.

Prior to deserting the college game for the play-for-pay ranks in 1946, Shaw-coached teams established a record of 63 wins, 42 losses, and 12 ties. His Santa Clara teams of 1936 and 1937 won 19 while losing only 1. Two of the wins were in the 1937 and 1938 Sugar Bowl games.

As a pro tutor, his record is even glossier. In nine years as head of the San Francisco 49er staff, his squads compiled 71 wins as opposed to 39 losses and 4 ties. His 1948 team established a professional scoring record of 495 points in 14 games, a mark that still stands.

The trademark of a Shaw-coached eleven is that they will score. Last year the Academy amassed 293 points in their nine outings, an average of more than 32 points per game.

The problem seems to be that the opposition is going to score too. Defense is a major shortcoming, therefore it follows that pass defense came in for a lion's share of attention last spring.

Shaw is a T-formation devotee. Basically, it's a standard T, but overtones of his professional experience have crept in and the seasoned T fan will recognize minor variations in

the Falcon attack. These variations can best be described as a flanked T and on occasion a spread has also been utilized.

The football fan that visualizes the T-formation as used by the pros naturally thinks of passing. Strangely enough, on the strength of figures from last year, this cadet squad does not pass too extensively. Their big offensive gun is fullback Larry Thomson of Billings, Mont., who carried the ball 138 times. Starting quarterback Eddie Rosane of Pasco, Wash., on the other hand, threw only 101 passes. All told, the cadets passed only 146 times and enjoyed 56 completions, but Rosane was far and away the leader. He had 41 completions for a 40.6 average, only a fair standard in the present air-minded offensive of college ball.

Thomson's running record, on the other hand, was extremely impressive. He gained a total of 788 yards net, an average of 5.7 yards per try, and scored 87 points, nearly twice as many as his nearest competitor. Some years ago, a Notre Dame back gained national prominence as "Six-Yard" Sitko, an indication of his reliability while packing the ball. Thomson's average last year nearly equals the magic "six" of this famed Irish plunging back.

Tom Jozwiak, six-foot-three, 220-pound end, was Rosane's favorite target. He made 13 receptions good for 260 yards and 2 touchdowns. Shaw's major praise during our interview with him was directed toward this Detroiter. "He's far and away our best end right now. He makes all the moves and has a great pair of hands."

We got an excellent example of what Buck means while watching the squad scrimmage. Jozwiak made several stellar catches that led this writer to believe that lesser ends have been mentioned for All-American honors in the past. Defensively his play is more than adequate.

From the results of the abbreviated spring practice, few personnel switches in the line are contemplated. Brock Strom, Ironwood, Mich., another strong veteran who has played mostly at center, was given a shot at a tackle slot, and he'll probably shift there permanently.

John Dolan, Gardena, Calif., a 1956 tackle, was moved to guard. John Gulledge, Sallisaw, Okla., listed as a center, had a try at a flanker job, but the results are still inconclusive. Chuck Zaleski, Morgantown, W. Va., anchors one guard position.

In the backfield, Shaw looks for veteran Mickey Gouyd, Cypress, Calif., to provide the major portion of running aid to Thomson. George Pupich, San Fernando, Calif., and John Kuenzel, St. Marys, Ohio, seem to provide the main competition for the quarterback slot. Steve Galios, Napa, Calif., also rates high as a running back.

It is conceivable that some of these names could be missing when the first whistle blows this fall, but to date none of the aforementioned has had any major academic problems. Candidates from the entering class could also take their toll by dislodging some of the presently slated starters, but again, this eventuality is improbable because of the experience factor.

Red Blaik, USMA coach. ". . . We shall watch the progress of our sister academy with professional and friendly interest."

The current year is going to be one of great decision for future Academy teams. Past records have a lot to do with future scheduling, in spite of what college publicity departments would have you believe. No coach is anxious to have his team face another sans reputation and suddenly find his charges mauled when the underdog "gets up" for his rated squad. By the same criteria, in this day and age of rating emphasis, no coach wants to feed on second place teams in the hopes of riding into the nation's top ten.

As a result, the Academy is going to have to make at least a passable showing this fall to rate serious schedule consideration in future years.

The 1958 schedule lists such outstanding grid names as Iowa, Stanford, Tulane, and Colorado Universities. The United States Military Academy will grace the 1959 schedule and Navy will enter the picture the following season.

The future football fate of the United States Air Force Academy Falcons could well be decided during the next four years, with 1957 as the pivotal one. By December 1 the course should be charted.

Right now, opposition coaches are frankly anxious to be included in future Falcon schedules. Coach Dick Clausen of the University of New Mexico Lobos, feels it is an honor to be included during the next two years saying, "I hope we make a decent showing against this group of perfectly trained and perfectly conditioned young men. . . . I hope it is our good fortune to stay on the Air Force Academy schedule for years and years to come."

Coach Earl "Red" Blaik of West Point was even more fervent in his enthusiasm about the future: "Army welcomes the entry of the Air Force Academy into major college football. Though we will not play the Air Force Academy until 1959, the development of a traditional Army-Navy-Air Force Academy series is anticipated within a decade. There is no doubt in my mind that the Fal-

Tom Jozwiak has been the standout flanker for the past two years. He has great hands and makes all the moves.

Crisp offensive blocking has marked the Academy running attack in the past. Main spring practice concentration was on defense.

cons will have a strong team within a few years. We shall watch the progress of our sister Academy with a professional and friendly interest. In my opinion, the Army-Navy-Air Force series is not only good for the services in general, but is also good for the game of college football."

Writing from a detached position of judgment, divorced from biased ties to the situation, we believe that the future of the Air Force Academy football Falcons lies somewhere within these three major coaching views.

We don't think the situation is as black as Buck Shaw would like to have the public believe. Neither do we believe it will reach the plateau of prominence in the immediate future that is hinted at by Colonel Blaik. We're convinced Dick Clausen comes closest to hitting the nail on the head in the present situation.

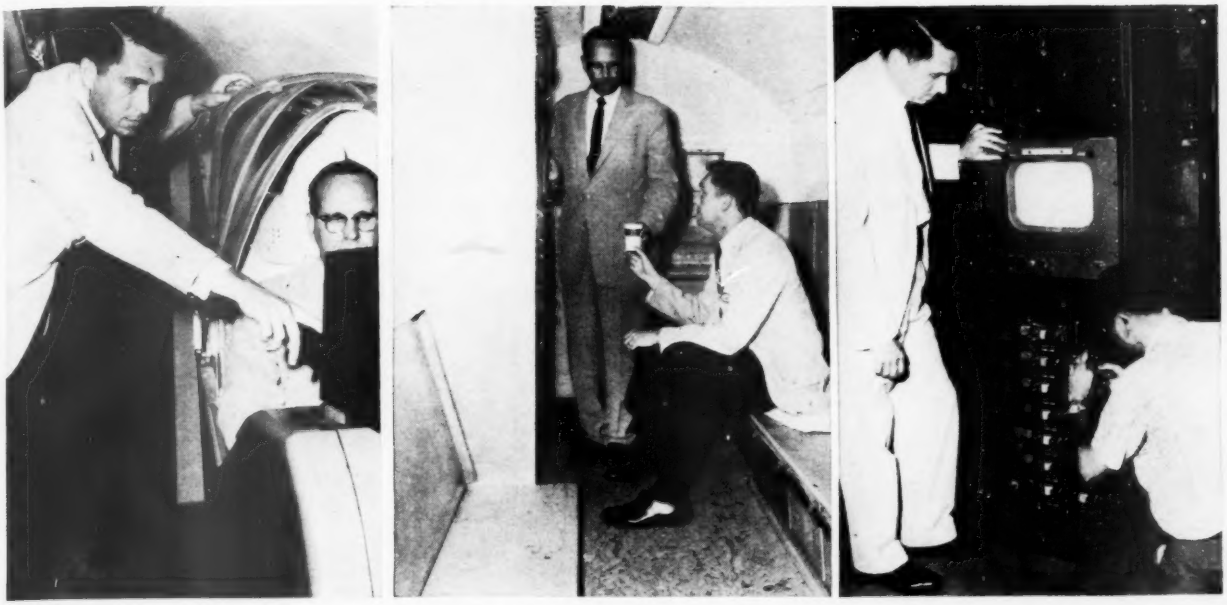
There's no doubt the squad will be "perfectly trained and perfectly conditioned." This follows as a result of the physical training of the Cadet Wing as a whole and the extensive experience of Buck Shaw in the coaching field.

The future seems to depend in a large part upon the manpower situation. Student aptitude and football ability do not necessarily go hand in hand, and quite naturally, classroom quality prevails. This fact could limit the source of supply.

With the unscheduled cutback in the size of early cadet classes, the results could be catastrophic to future Falcon teams' morale. However, we prefer to believe that these squads will be mentally mature enough to weigh any adverse results of the next couple of years in the light of manpower shortcomings.

As for 1957, the initial football year at Denver should serve as a fair guidepost to this season's record. The Falcons should finish around the neighborhood of .500, and in the face of manpower cutbacks which have unavoidably taken place and set back the intercollegiate football program, this looks like a pretty respectable neighborhood from this vantage point.

AIRMAN'S WORLD



Ten USAF crews will be confined for continuous periods of five days each in a mockup of the tiny aircraft interior pictured here. At left, psychologists O. S. Adams and Jack Kraft examine the cockpit of the mockup flight station which will simulate flight conditions. Center picture shows the plane's leisure area. At right, Adams watches construction of an elaborate electronics system which will aid scientists in checking crew members' reactions.

CRACKING AVIATION'S "HUMAN BARRIER"

A group of scientists and medical specialists are preparing an experiment under the auspices of Air Research and Development Command in an effort to determine the physical and psychological effects on aircrews confined on extended flights in small, crowded cabins.

A full-scale mockup of a small flight station will be used to confine 5-man Air Force crews for 120 hours each in this series of tests. Overall dimensions of the aircraft will be approximately 6 by 7 by 17 feet.

The tests will be conducted for ARDC by Lockheed Aircraft Corp. at its Marietta, Ga., plant and monitored by ARDC's Wright Air Development Center.

For periods of nearly one week, five men will be confined in an area about the size of an average automobile. They will "fly" the plane by operating dummy controls to simulate normal and emergency conditions. Crew members will eat, sleep, work, and relax in this tiny area. Ten crews will be used during the research period, which began the last week in July and is expected to end early next year. They will be kept under constant psychological and physical surveillance.

Similar tests have been conducted in the past; however, current investigations are unique because of the extended period of time.

ACADEMY APPLICATIONS

Maj. Gen. James E. Briggs, Superintendent of the United States Air Force Academy, has announced that a 50 percent increase has been authorized in cadetship for Regular and Reserve personnel of the Air Force and Army.

These vacancies are reserved specifically for members of these categories and may be filled by no other applicants. Applications for these openings in the USAFA class of 1962 may now be submitted by eligible personnel.

Any member of the Regular Air Force and Army, or their Reserve components, who meets the essential qualifications, may apply for entry into the Academy with the next class, June 27, 1958. Thirty-six of the 443 spaces are reserved for candidates in these categories.

Academy officials are quick to point out, however, that military applicants are not confined to this category alone when applying for entry into the services' newest school. They are eligible and urged to apply in every category for which they are qualified.

These include nomination from the following sources:

Members of Congress may nominate ten candidates each to compete for 85 percent of the vacancies. Candidates for Congressional nominations should write directly to their U.S. Senator or Representative, outlining their qualifications fully, and request that they be nominated.

Presidential nominations are open to sons of present, retired, or deceased members of the Regular components of the Armed Forces. Candidates for such nominations should write to the Director of Admissions, U.S. Air Force Academy, Denver 8, Colo., outlining their qualifications fully.

Members of Regular and Reserve components of the Air Force and Army may apply under AFR 53-10 or AR 600-690.

Sons of deceased veterans of the U.S. Armed Forces may apply by writ-

ing to the Director of Admissions, U.S. Air Force Academy, Denver 8, Colo. Such an applicant should give his full name, date of birth, address (if in the military service, his name, rank, organization, station, and service number); and the full name, rank, service number, and branch of service of the deceased parent, along with a brief statement concerning the time, place, and cause of death, and the claim number assigned to the veteran's case by the Veterans' Administration.

Sons of Medal of Honor winners are admitted automatically if they apply and meet the required physical and mental qualifications. Such candidates should write to the Director of Admissions, U.S. Air Force Academy, Denver 8, Colo., giving full name, date of birth, address (if in the military service, name, rank, organization, and service number); and the full name, rank, and branch of service of the parent to whom the Medal of Honor was awarded.

Basic physical qualifications dictate that applicants must be able to pass the Air Force medical examination for flying training, be between 5'4" and 6'4" tall, and between 17 and 22 years of age on July 1 of the year in which they hope to enter the Academy.

Additionally, they must be of good moral character, unmarried, and citizens of the United States.

There are no hard and fast educational qualifications. Any candidate who has graduated from a secondary school has a reasonable chance in competitive examinations.

Closing date for applications for the next class is January 31, 1958. Promptness in making application has been stressed by Academy officials, however, in the event complications should arise or additional information may be needed.

In the event additional information should be needed by any applicant, specific questions should be addressed to the Director of Admissions, U.S. Air Force Academy, Denver 8, Colo.

The 1957-58 United States Air Force Academy Catalogue will be available at all base libraries later this month.

★ ★ ★

FUTURE AIRMEN

Maj. Gen. Delmar T. Spivey, USAF (Ret.), recently announced the availability of several scholarships at Culver Military Academy for sons of military personnel. Scholarships range in value from $500 to $1,900.

Parents desiring further information should write directly to Academy Superintendent, Culver Military Academy, Culver, Indiana.

YOU DON'T LIKE THE WEATHER?

If Mark Twain could read this, he'd probably be happy to retract his famous statement regarding the weather.

Actually, Air Force researchers aren't producing any major changes, but a recent announcement indicates that manmade improvements are now possible which will measurably assist some operations.

Eighteen tests in widely scattered areas around the world have indicated that cloud seeding with crushed dry ice can temporarily dissipate one type of cloud cover and materially aid some USAF operations.

By introducing crushed dry ice at the rate of 10 to 25 pounds per mile in super-cooled, stratus-type clouds, significant size holes may be cleared. Roughly speaking, the seeding of a 3- by 8-mile area will open a 6- by 10-mile hole in from 20 minutes to an hour.

Such action could be applied for photographic purposes, for clearing clouds over a limited combat zone or for air-sea rescue operations, and to allow visual penetration by formations of aircraft.

★ ★ ★

BACK TO THE FARM

The United States Air Force is going back to the farm.

Alaskan Air Command has started construction on a hydroponic farm at Sparrevohn, one of the command's remote radar sites. Experts are predicting fresh vegetables by Christmas.

The announcement foreshadows no new land withdrawals. Hydroponics is a 16-cylinder word that refers to the growing of plants in chemically treated water. Japanese farmers, pinched for space in their home islands, have practiced the art for years.

Sparrevohn's edibles will be grown in two planting tanks, each 40' long, 3' wide, and 1' deep. Installed in steam-heated greenhouses, the tanks are expected to yield enough fresh produce to satisfy the site's entire population.

If the experiment proves successful, the command plans to install similar "farms" at other remote Alaskan stations.

★ ★ ★

USAF ON THE MOVE

Three major command headquarters are scheduled for moves from their present sites during the current calendar year: Air Research and Development Command will switch from Baltimore, Md., to Andrews AFB, Camp Springs, Md.; Air Training Command will take up new quarters at Randolph AFB, Tex., following their move from Scott AFB, Ill.; and the new home of Military Air Transport Service will be Scott AFB, Ill., after they have vacated Andrews AFB in favor of ARDC.

Additionally, it has been announced that Western Development Division, ARDC, has been redesignated Air Force Ballistic Missile Division, ARDC. The mailing address remains the same, P.O. Box 262, Inglewood, Calif.

★ ★ ★

SPECIAL SERVICES RECREATIONAL FLYING

Light plane flying is now being offered all SAC personnel as a recreational program, thanks to an idea conceived at 2d Air Force headquarters and recently sanctioned by the SAC Welfare Council.

Under the new program, aircraft for special services recreational flying may now be bought from welfare funds just as boats, outboard motors, fishing tackle, shotguns for skeet shooting, and other recreational equipment are purchased.

Here's how it works in actual practice. Special services purchases an aircraft for recreational use and it becomes the property of the central base fund. Since a place is needed to keep, maintain, and provide qualified training in the use of the airplane, it will be lent to the Aero Club in the same manner that welfare fund-purchased weapons are loaned to the Rod and Gun Club.

SAC Aero Clubs are not eligible for financial assistance from welfare funds since they are established as either private, state-chartered activities, sundry fund activities, or a combination of both. However, as special services facilities are available to all eligible base personnel, Aero Club members will also be eligible to participate in the new program.

★ ★ ★

BENDIX CLASSIC

Capt. Kenneth D. Chandler, 11th Fighter-Interceptor Squadron, Duluth Municipal Airport, Minn., was the winner of the 19th annual Bendix Trophy Event last month.

Flying a Convair F-102 *Delta Dagger*, Chandler consumed less time than five other ADC pilots over the Chicago to Andrews AFB, Md., course to establish a new record for the event. His average speed was 679.053 m.p.h.

Four of the six entrants bettered the old mark of 666.661 m.p.h. established last year during the National Aircraft Show at Oklahoma City, Okla.

about the SONIC BOOM

Since 1950, a lot of words and headlines have been written about the jet age's boisterous offspring. To help you answer Uncle John's questions, here's the latest word.

by Capt. Ted R. Sturm

If you've been working around the jets lately, chances are you've heard your share of sonic booms. Also, the chances are good that you've heard a lot of them without even realizing it: they don't always erupt with "an earth-shaking roar!" In fact, you probably don't hear over ten percent of the booms that do occur and because of close operational control, it will undoubtedly be a torrid day in Thule before you ever see a window broken in the path of a supersonic jet.

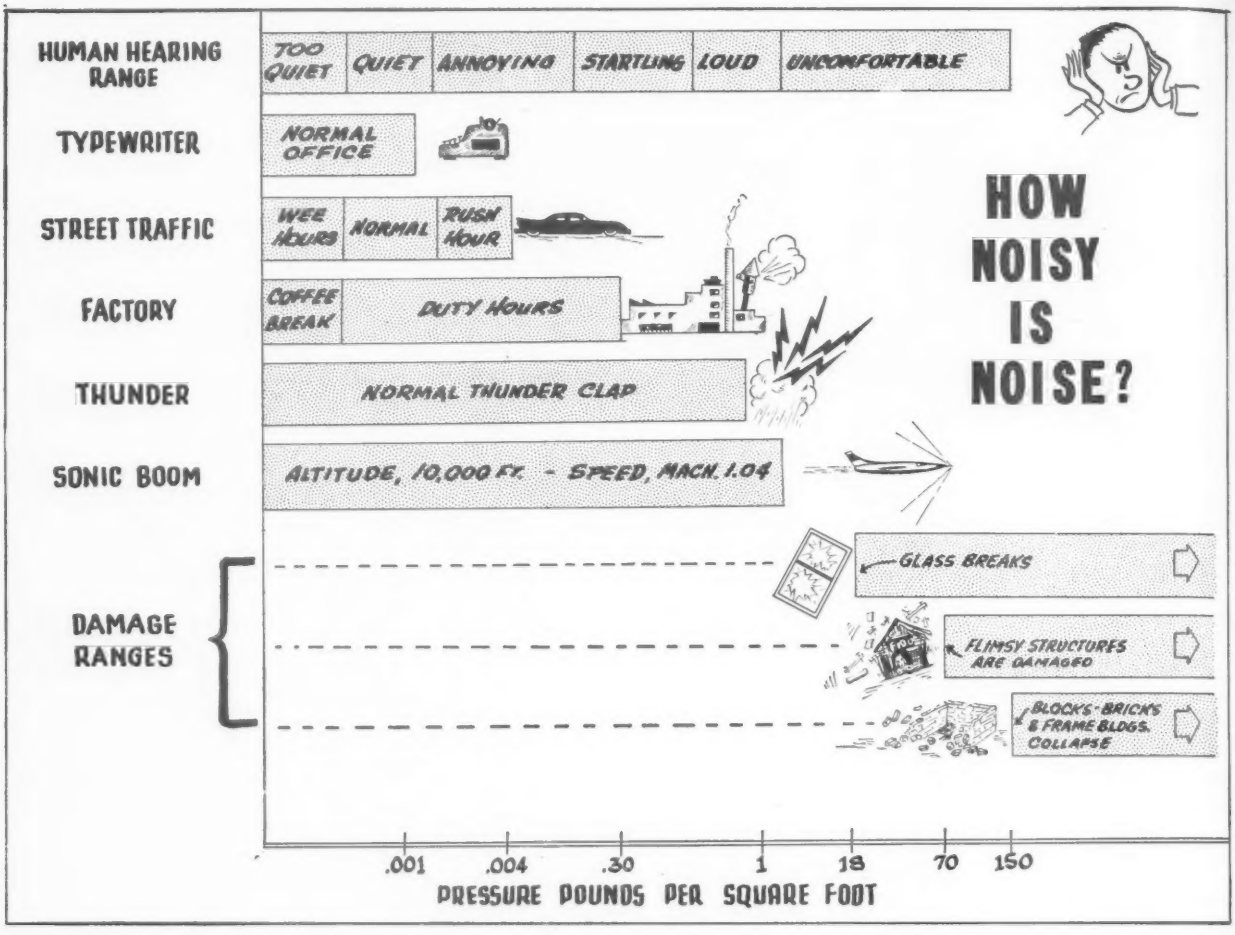
There are good reasons for these eyebrow-arching statements. For five years now—ever since a radar operator got "shook up" by a boom from a jet he was tracking—top USAF scientists have been exploring this uninvited hitch-hiker. The main thing they have learned is that its bark is worse than its bite—providing you're careful where you take it and where you turn it loose.

The surprising thing about the personality of this shockingly boisterous prankster is that you don't need a slide rule to understand it. Although scientific theories of booms and shock waves are still perforated with holes of unproved data, enough is now known to reduce the boom to a mere annoyance. This, of course, is done through operational control of aircraft, made possible through new knowledge of the boom's effects under different circumstances.

A Shock Wave Is Born

If you speak to a friend, you create a shock wave—a mild one, of course. Simply, the energy of your voice starts a wave which travels to your friend's ear. He hears. Shout, and the wave gets bigger. He hears more. Crack a whip, and you create a sonic boom. Sonic means having sound or generating sound waves. Naturally, an explosion creates a wave of large and sudden magnitude — a shock, creating a shock wave.

Taking the same principle along in a supersonic jet, it is easy to see how our shock wave develops as the airplane reaches the speed of sound itself. As the jet approaches the speed of sound, the waves of pressure speed ahead of the nose, moving air out of the way. When the airplane passes through the speed of sound, the sound waves cannot travel as fast as the airplane so they get on and ride. They attach to the nose, wings, canopy, and fuselage. They aren't ahead to move the air away.



The result is one continuous king-size explosion. The shock wave created by the jet grows and grows, sweeping back at sharp angles from the aircraft and extending cone-shaped behind it. When this uncontrolled shock wave hits the ground it startles people, breaks windows, and frightens hens clean off of their nests.

How Noisy Is Noise?

Fortunately, science can measure the force of sound, or shock waves. The most appropriate method is by measuring the atmospheric pressure exerted against something in pounds of pressure per square foot. For instance, the normal human hearing range is receptive to pressures from about 0.0002 pounds per square foot (PSF) up to 2 PSF, where 2 PSF is plenty loud. From about 4 up to 40 PSF, you'd best put cotton in your ears, and over 40 PSF you stand a good chance of getting your eardrums ruptured.

With this basic fact in mind (sound or shock waves measured in pounds of pressure per square foot), take a long look at the illustration that explains how noisy noise really is. Note that the sonic boom fits in after a good clap of summer thunder. No wonder it brings people out of their chairs.

Frankly, however, the size of the sonic boom varies from a fraction of a pound per square foot upward. And herein lies the key to operational control of the villain, because the magnitude of the boom has a direct relation to the speed, distance (altitude), and size of any aircraft tooling along faster than the speed of sound.

An aircraft roughly the size of an F-86, in level flight at 10,000 feet and a speed of Mach 1.04 (Mach 1 equals the speed of sound) will drag a sonic boom or pressure wave over the ground at a pressure of about three PSF; this is loud, but harmless. Drop the same aircraft down to 5,000 feet and the pressure at ground level only increases to about four PSF. Uncomfortable, but still harmless.

The danger lies in operating at supersonic speeds at about 300 feet off the ground. Pressure from the boom then jumps to around 33 PSF. This breaks windows, but doesn't knock down buildings, as scientific tests at atomic explosions indicate that it takes at least 70 PSF to cause structural damage to the flimsiest building.

The important fact is: What pilot

in his right mind is going to cruise at supersonic speeds 300 feet above the ground? Circumstances requiring such a flight are so unusual it's hard to come up with one.

Diving aircraft cause a somewhat stronger boom than that caused by aircraft in level flight. In tests, airplanes have dived from 35,000 feet in altitude, pulled out at 25,000 feet, and sent a boom hurtling earthward to crack at a pressure of about five pounds per square foot. Yet, even when these diving aircraft descended to 10,000 feet, the pressure was less than ten PSF.

The reason that a diving aircraft creates a bigger shock wave is because it literally "aims" the wave at the ground. Characteristically, the wave is the strongest at its point of origin, which is the nose of the aircraft. Also, there is, in reality, more than one wave, but the stronger waves absorb the weaker and only one or two are heard on the ground.

If the aircraft suddenly decreases its speed to below that of sound, the wave continues on, dissipating itself enroute, but the strongest point still leads the way. Thus, when a diving aircraft pulls out, the wave goes on, striking the ground at a higher number of PSF than if it were the trailing edge of a wave dragged in level flight.

Controlling the Boom

In 1953 at Palmdale, Calif., this dive effect was dramatically demonstrated. At that time little was known about the sonic boom, and the relationship between its strength and the speed and distance of the aircraft was still unknown. From 15,000 feet a North American test pilot hit a supersonic dive in the then YF-100. The altitude at which he pulled out is not known, but from the latest information it is known that he passed close enough, going fast enough, to create pressures great enough to break windows and crack beams on the door frames of Palmdale Airport's administration building.

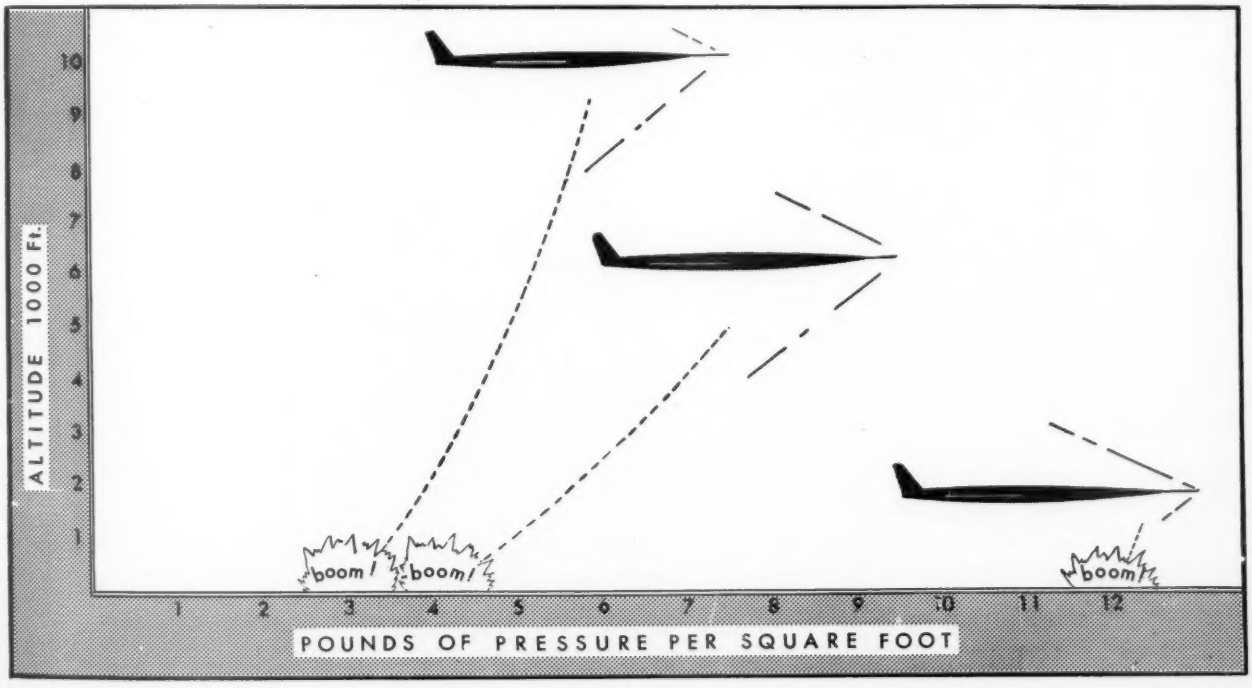
Today such an occurrence would not happen.

Noteworthy is the fact that supersonic flights today are rarely made at altitudes lower than 20,000 feet. At Mach 2—twice the speed of sound—a boom reaching the ground from 20,000 feet would have a pressure less than four PSF and, under certain conditions, would probably be too weak to be heard at all.

There is, however, still one remaining danger in straight and level flight—the psychological effect on people.

Psychologically, people rebel against sudden, loud noises. Try popping a balloon behind a sleeping person and see how fast you lose friends and alienate people. When a sonic boom goes off—ten times louder than a peal of thunder—some people become angry, others frightened, and most of them startled. Frightened people sometimes do dangerous things, and of course, if they are ill, physical damage can result from a severe fright. Therefore, the answer to this problem would appear to be education and information. If you know the boom

THE HIGHER THE PLANE . . . THE LESS THE PRESSURE



is harmless, it isn't much more annoying than a fire engine.

Analyzing the Boom

At Wright Air Development Center's Aeronautical Research Laboratory, Fred L. Daum and Norman Smith have been studying sonic booms for several years. Most of what the Air Force knows about the boom is the result of the efforts of these two men.

Essentially, they have established the following conclusions:

1. It is possible to estimate theoretically shock wave pressures at large distances from an aircraft in level supersonic flight.

2. Because of atmospheric conditions—wind, temperature, and pressure—a sonic boom will not always occur from the level flight of an aircraft traveling at low supersonic Mach numbers.

3. The sonic boom produced by an airplane diving supersonically at about 30 degrees from an altitude of 30,000 to 20,000 feet is audible over an area greater than 15 and less than 30 miles in diameter.

4. Near an aircraft generating a shock wave, the rate of decay of the shock wave pressure jump is very high; at a distance of one wingspan from the flight path axis, it is expected that the shock strength is only about 35 percent of the normal shock strength at Mach 1.1 and only 12 percent of the normal shock strength at Mach 1.5.

These two gentlemen readily point out, however, that they intend to plug other gaps in the program by studying and experimenting with such things as curved flight paths, higher Mach number ranges, and the effect of atmospheric conditions on the shock waves. They will also delve into the effects of acceleration and deceleration on shock wave strength, effects of clouds on reducing the strength of the wave, and the effect of aircraft configuration on shock wave pressures and patterns.

To the layman, however, enough is now known to quell the fears of Aunt Minnie, and satisfy the inquisitive mind of Uncle John. And if you're interested in boning up for their quizzes, check yourself out on the answers to some of the most common questions on the sonic boom.

Q. What causes the boom?

A. The boom is caused when an aircraft exceeds the speed of sound, and shock waves attach themselves to the aircraft surface. The waves form a trailing cone, normally extending to the ground and resulting in an explosive sound to an observer on the ground.

Q. Are they dangerous?

A. Yes they are, but so are atomic bombs, airplanes, and even automobiles, if uncontrolled. The danger has been minimized through the restriction of USAF supersonic flights to safe altitudes and areas.

Q. Can the booms cause damage to structures?

A. The Palmdale incident proves they can; but again, so can automobiles if they run into something. Because of operational control, most booms create pressures of less than 5 pounds per square foot. It takes a pressure of 18 pounds to break glass windows and 70 pounds to damage even the weakest structures.

Q. Is there any way to eliminate the boom?

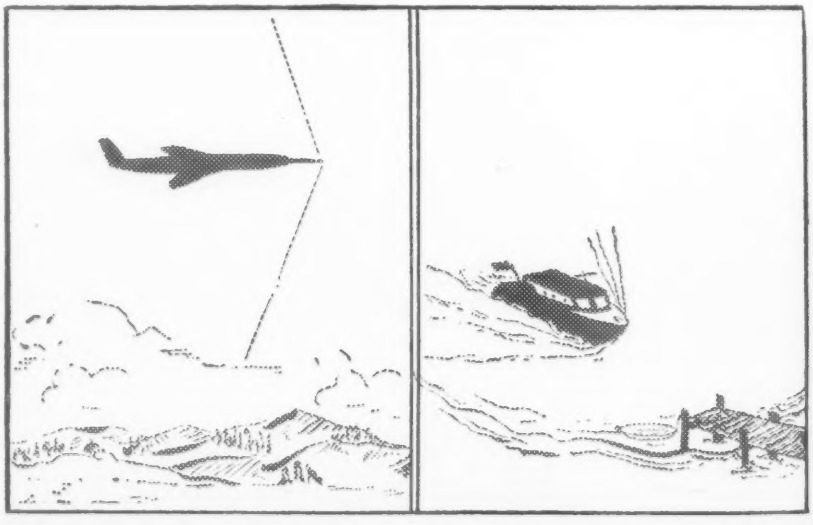
A. At the present time there is no known way of eliminating it. The important point is, enough is known so that it can be controlled.

Q. You say it isn't dangerous under present methods of control, but an explosion that loud must cause damage.

A. A boom of a magnitude of five PSF is over ten times as loud as a thunderclap. That is why it is frightening. But as it has been proved, the pressure is still 65 PSF lower than that required to damage flimsy structures.

Q. Granted it is harmless, then. But why must the Air Force operate at supersonic speed and frighten everyone out of their wits?

A. It is the mission of the USAF to protect the nation. It can only do this by maintaining air superiority, which means faster and better planes. If pilots are to fly supersonic planes in a future war, they must be proficient in their operation. Proficiency can only be attained by practice. As frightening as a boom can be, it is a mark of progress in national security. It has accurately been termed "The Sound of Progress."



The waves resulting from a boat underway are similar to the shock waves created by an aircraft in flight. Note that the ripples or wavelets follow the nose of the boat just as the shock waves attach to the aircraft's nose.

PRINTED IN THE U. S. A. BY THE CUNEO PRESS, INC.

IN OUR FIRST DECADE . . . .

SECRETARIES OF THE AIR FORCE

W. Stuart Symington
Sept. 18, 1947-Apr. 24, 1950

Thomas K. Finletter
Apr. 24, 1950-Jan. 20, 1953

Harold E. Talbott
Feb. 4, 1953-Aug. 13, 1955

Donald A. Quarles
Aug. 15, 1955-Apr. 30, 1957

James H. Douglas
May 1, 1957-

CHIEFS OF STAFF, USAF

General Carl Spaatz
Sept. 27, 1947-Apr. 30, 1948

General Hoyt S. Vandenberg
Apr. 30, 1948-June 30, 1953

General Nathan F. Twining
June 30, 1953-June 30, 1957

General Thomas D. White
July 1, 1957-

"I hear our outfit is scheduled for North Africa..." "No, I haven't seen it myself, but I heard..." "Listen, they tell me what actually happened was..." "The truth of the matter seems to be..." "Aw, it stands to reason they wouldn't say that unless..." "This is supposed to be top secret, but..." "I heard a couple of pilots down in Ops saying..." "The wheels aren't saying anything, but a guy in headquarters told me..." "If it wasn't true, don't you suppose they would deny it?"

DON'T GET SHOOK!
GET THE FACTS AT COMMANDER'S CALL